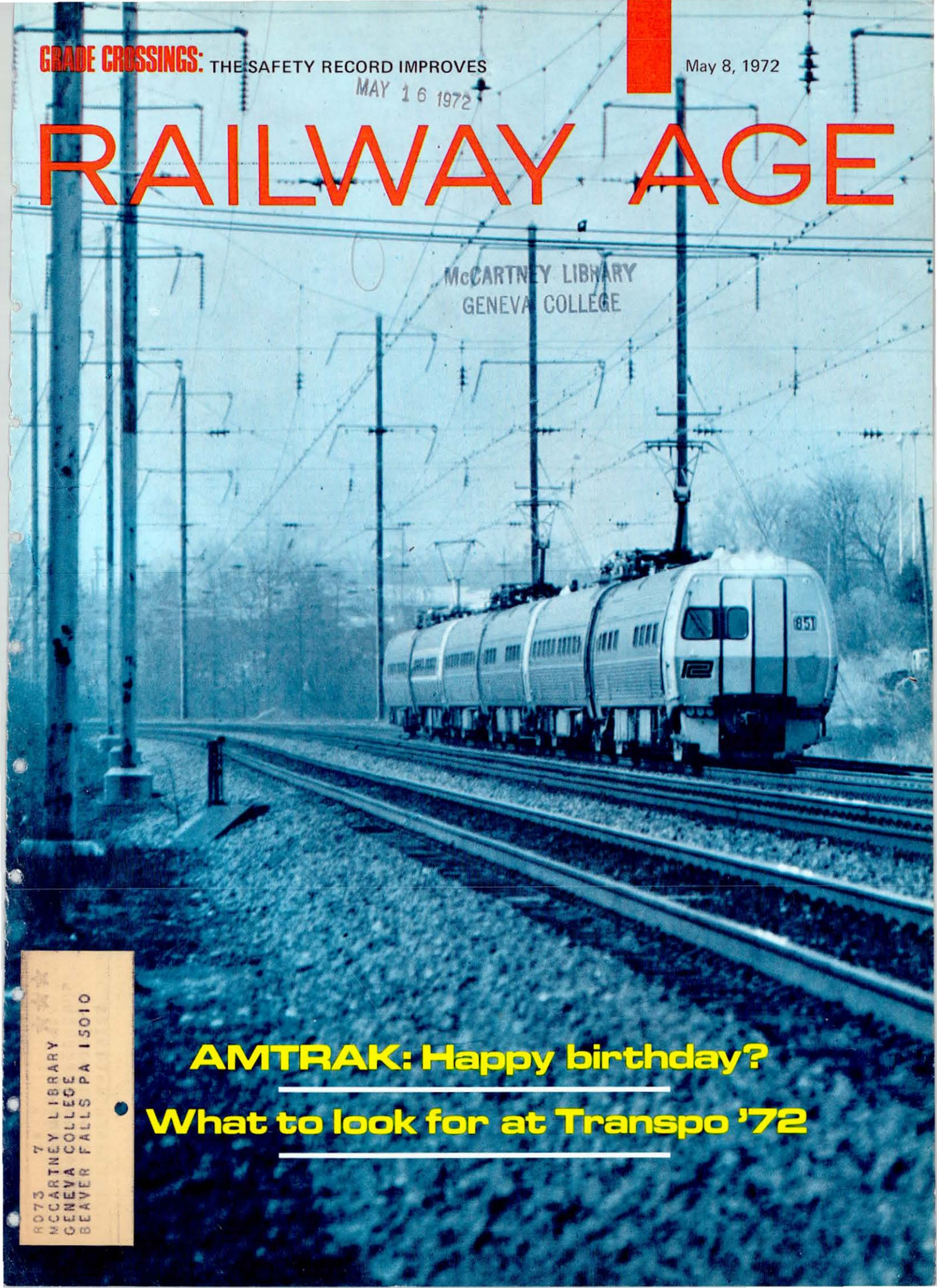
GRADE CROSSINGS: THE SAFETY RECORD IMPROVES

May 8, 1972

MAY 16 1972

RAILWAY AGE

McCARTNEY LIBRARY
GENEVA COLLEGE



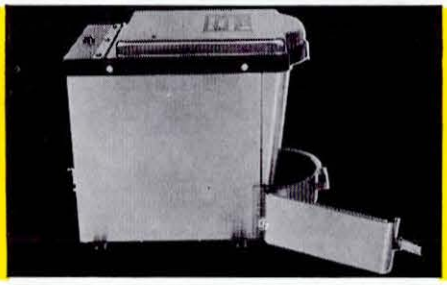
AMTRAK: Happy birthday?

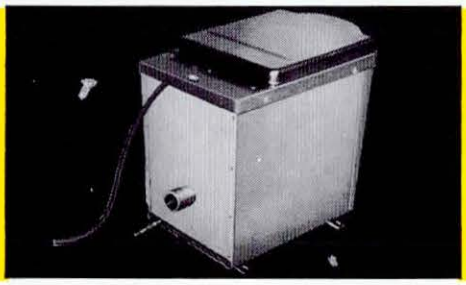
What to look for at Transpo '72

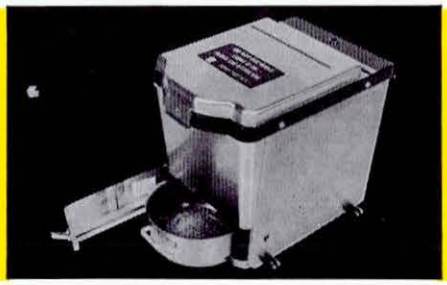
R073 7
McCARTNEY LIBRARY
GENEVA COLLEGE
BEAVER FALLS PA 15010

the SOLUTION

to Pollution is Reasonable with MODEL-S







— And that's the way it should be. Purchase of Research Products' new electric-incinerating toilet for locomotives is the most economical way to go because MODEL S uses the electric power of the locomotive to operate (no fuel tanks, no water, no pipes, no chemicals, no costly honey-wagon attendance), and because its servicing is minimal. Servicing of Research Products' Model S is the most simple, most economical of any retention toilet because (1) its human waste is incinerated to odorless, bacteria-free ASH, and because (2) that ASH can be emptied from the front of its removable ASH drawer. When you're making a check list on toilets, remember only Model S uses throughout heavy–gauge stainless steels and nickels, has CANDOR odor catalyst, incorporates a COVER/LID, gives you venting by either blower or ejector principle.

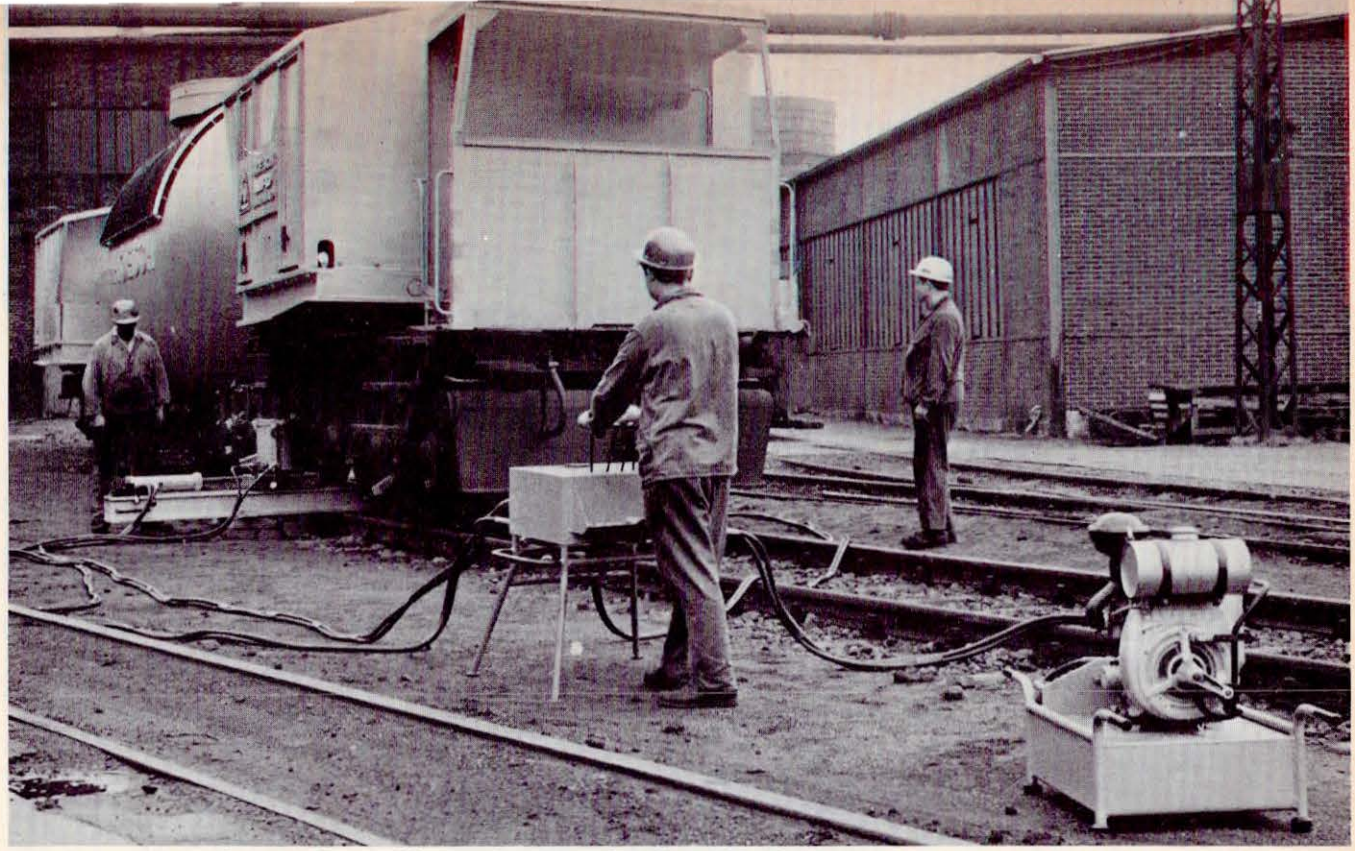
SOLUTION, SERVICE ECONOMY, PRODUCT QUALITY/RELIABILITY MAKE MODEL-S YOUR BEST BUY.

RESEARCH PRODUCTS MANUFACTURING COMPANY

TELEPHONE 214/358-4238 TELEX CODE 730-161 2639 ANDJON ST. DALLAS, TEXAS 75220

IN CANADA . . . RESEARCH PRODUCTS / BLANKENSHIP OF CANADA, LTD. 18 CANSO ROAD, REXDALE (TORONTO) ONTARIO

RP7101



Rerailing a 440 ton hot metal car, with complete control at fingertips of one operator

Back on the track

. . .faster and at lower cost with the Hoesch portable rerailing system for any situation involving derailed cars or locomotives, including the latest six-axle locomotives

SAFETY

One operator can coordinate as many as four jacks from a point where he can view the entire rerailing operation, as well as other car or train movements in the vicinity of the derailment.

High-pressure hydraulic hose lines permit the engine-driven pump unit to be kept far enough from both the control desk and jacks to allow normal conversation between members of the rerailing crew.

SAVINGS

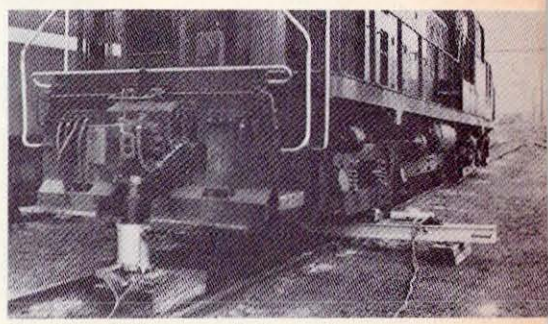
	Current Practice	Hoesch Method
Labor Needed	15 men	4 men
Equipment Needed	locomotive wreck crane tender boom car cable car sleeper diner car caboose	Hoesch Portable Rerailing System 1 truck

This means 5-point savings:

1. Five train crew members who can be released for other necessary road and yard switch work.
2. Six car men who can continue to work on important car repair work at the rip track.
3. Reduced damage to cars and lading as well as railroad bed, as compared with the use of the wreck crane. Many cars not physically damaged in the derailment itself are damaged through the use of the big hook.
4. No need to hold a standby locomotive to supply compressed air to operate pneumatic jacks, or pull cars back on the track.
5. Adjacent track does not have to be blocked during rerailing operation.

SPEED

Equipment can be transported on any regular highway truck or truck with high rail. All the components of the equipment are portable, made out of lightweight aluminum alloy. Rerailing can begin immediately on arrival at the jobsite.



Rerailing 115 ton switch yard locomotive

World wide acceptance. Write for our brochure, or ask to see a motion picture showing the Hoesch system at work on many applications.

HOESCH AMERICA, INC.

225 Peachtree Street, N.E. Atlanta, Georgia 30303, (404) 688-9171

Also manufacturers of: Hydraulic wheel presses/pit-type wheel lathes/numerical wheel set measuring stands/heavy-duty wheel lathes/journal turning and grinding machines/turn-tables and transfer bridges.

Circle 3 on coupon page 39

WABCO is: Calling home from the Metroliner and a safe stop beneath Sao Paulo.

WABCO is transportation systems around the world. It's the Metroliner whisking businessmen from the heart of Manhattan to Washington D.C., and allowing them to call home from the train.

It's the electronically controlled, braking system to be installed on Sao Paulo's new subway. WABCO is also air-operated door openers, gear shift controls and braking systems on trucks and busses all over Europe.

An advanced draft gear test-control center in Chicago is WABCO, too. It runs trials with full-sized rolling stock.

WABCO is mass transportation systems like the Lindenwold line from South Jersey to Philadelphia. Thirty five thousand commuters daily. It's the Colton marshalling yard in L.A. handling 6800 cars per day.

And WABCO is Monorails, "people-movers" in the Houston airport and through the San Diego Zoo . . . anywhere the place you've got to go is just a little too far to walk.

All of these capabilities and more exist in the Transportation Group of Westinghouse Air Brake Company. Three Gateway Center, Pittsburgh, Pa. 15222.

Transportation from the word go.

WABCO

An American-Standard Company

WESTINGHOUSE AIR BRAKE DIVISION • SIGNAL & COMMUNICATIONS DIVISION • MONORAIL DIVISION • CARDWELL-WESTINGHOUSE

Circle 4 on coupon page 39

RAILWAY AGE

May 8, 1972 • Vol. 172 No. 9

Editorial and Executive Offices
New York, N.Y. 10013, 350 Broadway
(212) 966-7700

ROBERT G. LEWIS: Publisher
LUTHER S. MILLER: Editor
FRED C. MILES: Executive Editor

Mechanical: Fred N. Houser
Art Director: Maurice H. Mates
Editorial Assistant: June Meyer
Librarian: Edith C. Stone
Production Manager: Fred B. Hecht
Manager—Contract Department:
Constance Nicolai
Promotion Director: George Dusenbury

Editorial and Executive Offices
Chicago, Ill. 60602, 29 E. Madison St.
(312) 641-5815

C. JAMES FISHER: Vice President—Sales
GUS WELTY: Senior Editor

Mechanical: Robert D. Bartley
Engineering:
Merwin H. Dick R.E. Dove
Signaling & Communications:
Robert W. McKnight
Editorial Assistant: Wanda Brown

Washington, D.C. 20004,
National Press Bldg. (202) 347-1155
Washington Editor: Reid Beddow

Brighton, Sussex, England
8 St. George's Place, (Brighton 685867)
International Editors:
John Levett Paul Goldsack

Advertising Sales Offices:
See Advertising Index

Railway Age, established in 1856, is indexed by the Business Periodicals Index and the Engineering Index Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
Published semi-monthly by the Simmons-Boardman Publishing Corporation, 508 Birch St., Bristol, Conn. 06010.
Railroad employees' subscription rate, U.S. possessions, Canada and Mexico, $6 one year, $9 two years, all others $15 for one year, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year; in the eastern hemisphere, $15 a year. Single copies 60¢, except special issues.
Address all subscriptions, change of address and correspondence concerning them to Subscription Dept., Railway Age, P.O. Box 530, Bristol, Conn. 06010.
Change of address should reach us three weeks in advance of next issue date. Send old address with new enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Member of ABC RPI

Circulation Dept.: John Rogers Director of Circulation, 350 Broadway, New York, N.Y. 10013. POSTMASTER—SEND FORM 3579 TO P.O. BOX 530, BRISTOL, CONN. 06010.
Printed at the Hughes Printing Co., 34 North Crystal St., East Stroudsburg, Pa. 18301. Second-class postage paid at Bristol, Conn., and at additional mailing offices.

supporting ASTRO

Inside

LUTHER MILLER

MANY HAPPY RETURNS

Amtrak had two birthday parties last week—one in Washington on May 1, and a follow-up celebration at New York's Penn Station on May 2. Mechanical Editor Fred Houser attended the latter and reports: "Gloria Swanson was on hand to christen the new 'Broadway Limited' and send it off to Chicago. Somebody remarked that one good has-been deserves another. I thought that unfair. Miss Swanson looked great, and so did the 'Broadway,' which is, by the way, a very ecumenical train in its transformation.

"Cars 4411 and 4416 are 44-seat legrest coaches which Amtrak acquired from Southern Pacific. Car 2001 is the old 'Broadway' Sleepercoach, but like all of the cars in the consist it looks almost like new, with fresh carpeting and upholstery and new paint jobs outside and in. Car 3311, the lounge-recreation car, also came from SP, and everything in this car is new except the hull. Among other things, there is a new stereo sound system, a TV cassette system and a ladies' lounge with shower.

"Cars 4610 and 4611, making up a twin-diner, are owned by Penn Central but have just been repainted in Amtrak's livery. Car 2235 is a bedroom car from Seaboard Coast Line. Car 2619, with 10 roomettes and 6 double bedrooms, comes from Union Pacific. Car 5621, ex-Penn Central, is a 56-seat coach that operates between New York and Harrisburg; Car 4414, ex-SP, is a 44-seat legrest coach which operates between Washington and Chicago and is cut into the 'Broadway' at Harrisburg. And a fitting climax is provided by Car 3251, the Dana, from the Baltimore & Ohio. It is a diner-lounge-observation car with, among other amenities, a stereo system, microwave-oven food service and a carpeted bar. All in all, a good show, and a very fine-looking train. I can't wait to try it. And as for Miss Swanson, *she* made a comeback, didn't she?"

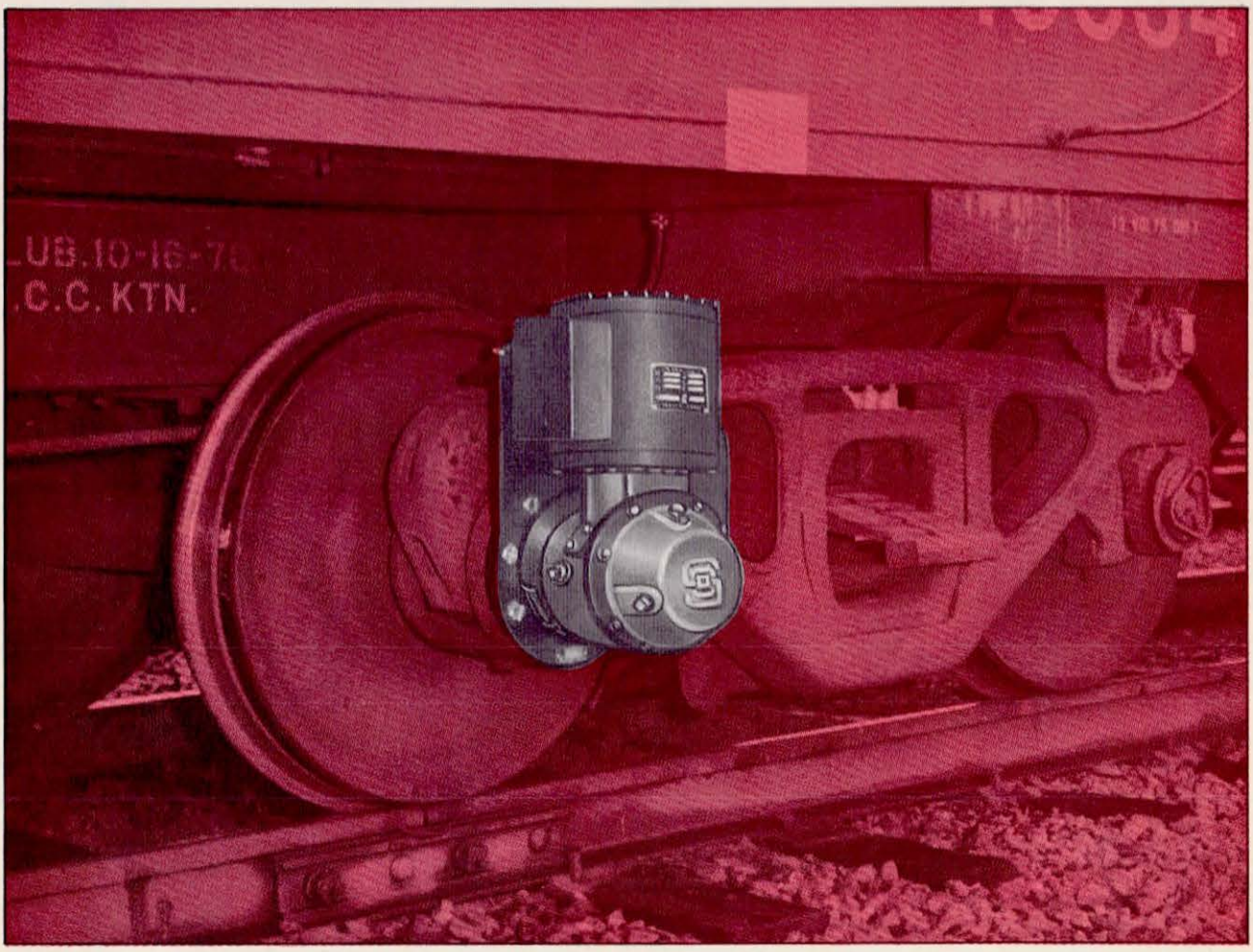
A comeback is precisely what Amtrak President Roger Lewis has in mind for the "Broadway" and the other 200-odd trains now under the Amtrak flag. How he proposes to accomplish this is described by Joe Asher in the cover story beginning on page 30.

Lewis is aware, of course, that getting people to try a product once is not the real test; the test is getting them to come back. So it seems especially appropriate to wish Amtrak, on the occasion of its first anniversary, many happy returns.

WHERE WAS THE NEW YORK TIMES?

The New York Times and the New York Daily News have been quick to criticize Amtrak, during the first difficult months of its existence, for flawed performance. But neither paper found space to report in their May 3 editions on the very real accomplishments which were displayed for the press in New York on May 2. Amtrak is now discovering what the railroads have known for years: that the critics of "do-nothingism" can be mysteriously quiet when something *is* done.

NEW CABOOSE GENERATOR



NOW – ELIMINATE DRIVE SHAFT, BELTS, PULLEYS!

Put an end to alignment problems.

- SIMPLE SEVEN-BOLT INSTALLATION ON EXISTING JOURNALS
- BRUSHLESS GENERATOR (no commutator or slip rings)
- SOLID STATE REGULATOR
- EASY IN-YARD TESTING
- TROUBLE-FREE, LOW MAINTENANCE

Here, in a single, compact unit, eliminating all the old fashioned hang-ups, is the answer to the electrical needs of today's caboose. It goes right on where the old comes off. This new, end-of-axle caboose generator, is available in 15 volt, 40 volt and 80 volt models direct coupled to 1½ or 2 KW inductor alternator, static voltage regulator and rectifier unit. It's "Safety" engineered and "Safety" quality. Call our sales offices for details.

Safety **ELECTRICAL EQUIPMENT CORP.**

NEW YORK • CHICAGO • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO • NEW HAVEN • MONTREAL

1185 DIXWELL AVENUE, NEW HAVEN, CONNECTICUT 06514 TELEPHONE 203: 865-3171

Circle 5 on coupon page 39

RAILWAY AGE

May 8,1972

NEWS

LABOR	Crew laws: Now there is one	p. 8
MOVING PEOPLE	Rohr is apparent low bidder on WAMATA fleet	p. 11
	MTA sets hearing on 900-car order	p. 11
	USSR has real jet-powered train	p. 22
	Maryland acts to fund transit	p. 29
	Chicago area to get help from state	p. 29
OPERATIONS	Jersey Central/Lehigh Valley: Whose move is it?	p. 12
EQUIPMENT	Santa Fe getting 100 ACF Conditionaires	p. 10
ENGINEERING	ATSF field-tests new rail welding process	p. 22
FINANCIAL	C&O/B&O: Big spenders in 1972	p. 8
	L&HR goes into bankruptcy	p. 8
	WP nets million in quarter	p. 8
	Machine-tool orders continue to rise	p. 8
	Claytor urges quick thaw for rate freeze	p. 10
INDUSTRY	An abandonment moratorium?	p. 8
	Rice wins National Transportation Award	p. 8
	Serviceable car ownership rises	p. 8

FEATURES

MOVING PEOPLE	What to look for at Transpo	p. 16
	Amtrak: Happy birthday?	p. 30
SAFETY	Grade crossings: Safety record improves	p. 34
ENGINEERING	New tie inserter demonstrated on Rock Island	p. 37

COMMENT

INSIDE	Many happy returns	p. 5
WATCHING WASHINGTON	An APT for DOT?	p. 11
LINES ON LABOR	Measurements and paperwork	p. 13
VIEWPOINT	Beggars rattling tin cups? Look again	p. 48

COVER

The Metroliner, flagship of the Amtrak fleet, was photographed for this issue's cover by Robert G. Lewis.

DEPARTMENTS

Advertising Sales Offices . . p. 47
Carloadings . . . . . p. 43
Market Outlook . . . . . p. 43
New Products . . . . . p. 39
Moving People . . . . . p. 29
People in the News . . . . . p. 45
Supply Trade . . . . . p. 46
Transit . . . . . p. 46

Short and Significant

CREW LAWS: NOW THERE IS ONE

With rail management and labor in agreement on repeal of Wisconsin's crew-consist law (RA, March 27, p.11), the state's legislators wasted no time making it official. Acting in a special session, the state Assembly approved the repealer by an 88-5 vote and the Senate passed it on a voice vote with no audible dissent. That leaves Arkansas as the only state with a crew-consist law still on the books. And Arkansas voters may have their chance at repeal via a November referendum.

AN ABANDONMENT MORATORIUM?

ICC attempts to speed up and liberalize abandonments of branch lines continue to rile Congressmen. Eight U.S. senators on April 27 introduced a bill putting a moratorium on abandonment certificates until after June 30, 1973. Congress would have one year in which to pass new legislation controlling abandonments. Passage of the measure is unlikely.

C&O/B&O: BIG SPENDERS IN '72

C&O/B&O will spend "a grand total of $394 million this year to buy new tools and to preserve the tools we already own," Hays T. Watkins, president of the affiliated carriers, told shareholders at their annual meeting in Cleveland. The grand total includes $120 million in capital outlays, of which $66 million will go for freight cars, $34 million for locomotives, and $20 million for additions and improvements to the physical plant; plus $160 million for regular maintenance and repairs to rolling stock and another $114 million for routine upkeep of facilities. As for the traffic outlook, Watkins predicted "a slowly improving economy" but "no dramatic overnight boom." For first-quarter 1972, C&O/B&O had record earnings of $11.4 million, up from $8.8 million in 1971, despite a 7% drop in carloadings. The improved earning position was achieved "through a concerted effort to hold the line on expenses," said Watkins.

RICE WINS NATIONAL TRANSPORTATION AWARD

The Secretary of Defense, acting on the recommendation of the Joint Chiefs of Staff, has selected Seaboard Coast Line Chairman and President W. Thomas Rice as winner of the 23rd National Transportation Award. The award is sponsored by the National Defense Transportation Association. Last year's winner was Boeing Chairman W.B. Allen. Rice retired from the Army Reserve in 1969 with the rank of major general. In World War II he supervised military operations of trains running through Iran into Russia and later was rail staff officer in the Far East. In announcing the award, NDTA noted that SCL "services every major military installation in the South and has provided immediate support during several emergency situations."

L&HR GOES INTO BANKRUPTCY

The 86-mile Lehigh & Hudson River, a Class II carrier with revenues of around $3 million a year, entered reorganization April 19 under Section 77 of the Federal Bankruptcy Act. W.G. Moore, president and general manager, said "current liabilities have far exceeded current assets." He blamed "constantly declining revenues due to loss of traffic, principally Penn Central loads diverted from this route," plus rising costs. He added: "A more immediate factor is the demand of Penn Central to receive money owed by this carrier to Penn Central while not paying Lehigh & Hudson River money which it owes and cannot pay under its own bankruptcy."

MACHINE-TOOL ORDERS CONTINUE TO RISE

Orders for U.S. machine tools, one of the key indicators of the state of the economy, totaled $117,700,000 in March, the highest single-month figure since October 1969, according to the National Machine Tool Builders' Association. The March total was 37% above the preceding month's figure and 73% above March 1971. Orders for the first 1972 quarter totaled $274,200,000, up 51% over last year's comparable period.

WP NETS MILLION IN QUARTER

Western Pacific Railroad, which lost $822,000 in the first quarter of 1971, has reported net earnings of $1,056,000 for this year's first three months—an improvement which President Alfred E. Perlman attributes principally to "the continued improvement in the control of our freight-car fleet together with a decrease in the number of cars awaiting repairs [which] eliminated the substantial net charges for car hire which have characterized the operations of this railroad for decades." The parent company, Western Pacific Industries, reported a first quarter net of $1,160,000.

SERVICEABLE-CAR OWNERSHIP RISES

The Class I Railroad ownership of serviceable freight cars on Feb. 28, 1971, was 1,349,764 and on Feb. 29, 1972, it was 1,358,631. On Feb. 29, 1972, there were 82,687 cars awaiting repairs. These figures were incorrectly reported in the April 24 issue.

ATTENTION!

Railroad Track Contractors

(Construction, maintenance, equipment leasing)

Be sure you are listed in this comprehensive directory

The July 1972 issue of Railway Track and Structures will include a comprehensive directory of contracting firms specializing in railroad track construction and/or maintenance work. Track-equipment leasing firms will also be included. If your firm falls into any of these categories you are invited to send us the necessary details so that we may include your company in the directory. There is no obligation. Just fill out the coupon or send the information on your letterhead to the Directory Editor, Railway Track and Structures, 29 E. Madison, Chicago, Ill. 60602.

If you have more than one office please provide the addresses of all offices, indicating which one is the main office.

Directory Editor
Railway Track and Structures
29 E. Madison
Chicago, Ill. 60602

So that my company may be included in the directory of railroad contractors and equipment leasing concerns to be published in your July 1972 issue, I am submitting the following information:

COMPANY _____

STREET _____

CITY _____ STATE _____ ZIP CODE _____

(Please list branch offices on separate sheet)

Type of work performed:

Check here

- ☐ Railroad track construction
- ☐ Railroad track maintenance
- ☐ Equipment leasing

Your name _____

Title _____

Address _____

_____

INDIANA HARBOR BELT TAKES LEAD WITH ACI LABEL MAINTENANCE PROGRAM

seen as important factor in retaining highest ACI performance levels . . .

THE INDIANA HARBOR BELT RAILROAD reports that its Automatic Car Identification System now includes a continuing plan of action for ACI label initial placement plus scheduled cleaning, maintenance & replacement.

Discussing the program, Mr. R. E. Sullivan, IHB General Manager, observed, "We all know that ACI labels can eventually get so dirty as to impair readings . . . and as with any other equipment on cars, they are subject to various kinds of damage. We've discovered that normal ACI Label care can actually be rewarding because our LMP (Label Maintenance Program) is helping us *retain* the high levels of accuracy and performance built into our ACI System."

Mr. Sullivan is shown (at right) with Mr. Cutty A. Turnbull, IHB Manager, Data Processing, checking ACI labels in the IHB Gibson Yard.

The IHB program is modeled after current AAR rules in effect May 1, 1970 and which call for ACI label placement and maintenance on all cars in interchange.

The IHB experience proves that ACI label maintenance is a must for good car handling. We strongly urge you to consider such a program for your railroad and we'll be pleased to outline a plan. We'll *all* benefit in terms of optimum ACI performance!

W. H. Thompson
President

ACI Systems Corp.

Headquarters: S. Holland, Ill. 60473
520 Armory Dr. Phone (312) 331-6203

Atlanta, Ga. 30303
Phone: (404) 522-5006

Westwood, Mass. 02090
Phone: (617) 329-3382

Circle 6 on coupon page 39

RAILWAY AGE NEWS

Santa Fe getting 100 ACF Conditionaires

Santa Fe has purchased 100 air-conditioned covered hoppers from ACF—and in mid-April Santa Fe President John S. Reed, accompanied by 11 other ATSF executives, went to ACF's Amcar division headquarters at St. Charles, Mo. to inspect one of the new cars. Reed (at right in photo) was greeted by (l to r) ACF Chairman John F. Burditt; John S. Carlson, general manager of ACF's Shippers Car Line division; and William J. Jackel, general manager of the Amcar division. Inspection of the car, called the Conditionaire, was followed by a tour of ACF's Amcar Technical Center.

ACF says the car is the first of its type designed specifically for hauling produce in bulk. Each car is insulated with polyurethane foam and is equipped with an air-conditioning and heating unit that can keep the inside temperature constant during transit. First major assignment of the cars, scheduled for delivery in April, will be hauling potatoes from the San Joaquin Valley of California to eastern markets. Santa Fe is also experimenting with citrus shipments. The cars were built at ACF plants in Huntington, W. Va., and Milton, Pa.

Claytor urges quick thaw for rate freeze

The April action of ICC suspending the 4.5% average freight-rate increase could have a "devastating" effect on marginal railroads caught in the wage/price squeeze, warned W. Graham Claytor, president of the profitable Southern. The suspension, imposed at the request of the Federal Price Commission, could also have a depressing effect on Southern, which, with other roads, began paying a 5% mandated wage boost on April 1.

Referring to the fact that Southern's 8.3% gain in operating revenue for the quarter did not keep pace with the rate of increase in operating expenses, Claytor sees "a continuation or even acceleration" of this trend in the second quarter as a result of the April 1 pay increase. He called on the ICC and Price Commission for prompt and favorable action on the railroad industry's pending request for a selective increase in freight rates.

The railroad industry can only remain viable, cautioned Claytor, if it has earnings that enable it to borrow money to prepare for the traffic increases anticipated in coming years. Approval of pending transportation legislation would also be a step in this direction, he added.

Southern operating revenues went from $165 million in the first quarter of 1971 to $179 million this year. Operating expenses increased 10.3%, so that earnings before taxes were only 2.8% higher. Except for the 2½% rate surcharge effective since February, Southern earnings would have declined, Claytor explained. Southern's large 1972 equipment purchases are producing investment tax credits that caused first quarter net income after taxes to rise 21.8% to $22.2 million.

Norfolk Southern and Southern have filed with ICC for a merger of NS and Southern-controlled Carolina & Northwestern. The proposal will be submitted to NS holders soon.

Rohr bids low on Metro cars

Although rumor had it that a foreign builder might win the order for the first 300 cars for the Washington Metropolitan Area Transit Authority, Rohr Corp. was the apparent low bidder with its quotation of $91,607,274. This was 23% under the preliminary estimate of the WMATA staff.

Next low bidder was General Electric, with a bid of $103,131,554. Close behind was LTV Aerospace (Vought) with $103,149,000, based on a bonus allowed for a three-ton reduction from the WMATA specification of 144,000 pounds per car. High bidder was Japan's Toshiba with a quotation of $142,972,300.

Pullman-Standard withdrew from the race at the eleventh hour, due to heavy commitments elsewhere. St. Louis Car had pulled out earlier.

In the next several weeks the bids will be analyzed by the WMATA staff.

MTA sets hearing on 900-car order

New York's Metropolitan Transportation Authority will hold a public hearing May 30 at the Americana Hotel on the awarding of a contract for up to 900 cars for New York City Transit.

Bids were opened April 7, with Pullman-Standard emerging as the apparent low bidder. Pullman bid $299,700 per car for 200 cars; $273,000 for 900.

General Electric bid $326,673 per car for 200, and $312,211 for 900.

Rohr bid $325,878 for 600 to 900.

Westinghouse Electric, for the first time a prime bidder (with St. Louis Car as a subcontractor), bid $335,671 for 200 cars and $290,853 for 800 cars.

In a subsequent statement, W. Ashley Gray Jr., president of General Steel Industries, St. Louis Car's parent company, explained that "although St. Louis Car has built more subway cars for New York than any other builder. . .it has never had great enough resources to meet the fiscal requirements set forth for prime bidders on the 900-car contract, the largest single order for transit cars in history."

Watching Washington

REID BEDDOW

APT FOR DOT?

British Embassy officials here are privately jubilant about an announcement they expect soon: that the United States government will acquire a prototype Advanced Passenger Train (APT) from British Rail. APT is the gas turbine-powered train capable of 150 mph on conventional track which starts road tests next month. Two prototype APT's (the second will be electrically powered) will be ready for revenue passenger trials in 1974. It is not known whether DOT will acquire one of these trains, for no one here is yet willing to name dates or price tags. But one embassy trade attache, noting that BR research chief Dr. Sydney Jones will lead a seven-man technical team to Transpo '72 later this month, hinted that BR Chairman Richard Marsh would fly over for the announcement.

In addition to a full-scale mockup of APT's power car at Transpo, 16 British companies will display rail and rapid-transit equipment. They include Brush Electrical Machines, Hawker Siddeley, Elliott Automation, Smith Bros. & Webb, Triplex Safety Glass, and Tiltman Langley.

STIRRINGS OF SPRING

Trees are in leaf here, and like everyone else Congressmen feel the sap rising. Maybe that is why after a winter of turgid activity they have started reporting out measures. Of major importance is the action of the Senate Surface Transportation Subcommittee in clearing three sections of the carrier-backed Surface Transportation Act. Favorably reported for consideration by the full Commerce Committee are provisions ending discriminatory taxation of carrier property; requiring mandatory allocation of 5% of all Highway Trust Fund monies for improvement of rail-highway grade crossings; and permitting the ICC to send its budget directly to Congress, rather than through the White House. These three provisions are now on their own, being removed from S. 2362, the original bill. They are the least controversial sections of STA, and Senate approval seems likely.

SENATE WOULD RESTORE PASS PRIVILEGES

In approving a substantial aid package for Amtrak by an overwhelming 73 to 7 vote on April 27 (see page 31), the Senate tacked on three interesting amendments. One would restore pass privileges to all who had such rights prior to April 30, 1971. Another would cut the salaries of Amtrak officials, notably that of President Roger Lewis. He now gets $125,000 a year. The Senate bill would reduce this to $60,000. A third would provide for General Accounting Office authority to inspect the books of all participating railroads as part of any audit of Amtrak.

Jersey Central/Lehigh Valley: Whose move is it?

At midnight March 31, the Jersey Central ended all operation of its 175 miles of railroad in eastern Pennsylvania; neighboring (but no longer very neighborly) Lehigh Valley moved in to begin operating these routes under a temporary ICC service order.

These two events culminated a year of activity before the ICC, in two bankruptcy courts, at the U.S. Supreme Court, at the Federal Railroad Administration, and in the offices of many concerned CNJ freight customers. Throw in negotiations involving a non-operating railroad owner, several other railroads, the governors of New Jersey and Pennsylvania, several railroad unions, and many local governments. You might then believe that the CNJ/LV transition in Pennsylvania would have been greeted with a sign of relief.

Not so. Through April both roads were seeking clarification of the ICC service order and informing their respective reorganization courts (Judge John P. Fullam of the Eastern District of Pennsylvania for LV and Judge Anthony T. Augelli of the New Jersey District Court for CNJ) of problems attendant to the transfer of operations, and, particularly, of interchange points.

The legal mills were grinding slowly. ICC had not granted formal abandonment of CNJ over the so-called Lehigh & Susquehanna line from Easton, Pa., to the Wilkes Barre/Scranton region, nor for a dozen other segments of line in Pennsylvania and New Jersey. For a century the Pennsylvania lines have been leased from the Lehigh Coal & Navigation Co. ICC had, however, authorized LV to service former CNJ customers in Pennsylvania and to substitute LV for CNJ for movements of traffic over those lines.

Following some confusion about the original ICC service order, the Commission on April 4 permitted LV to interchange with CNJ at Oak Island (Newark), N.J., rather than at Phillipsburg, N.J., some 65 miles further west. CNJ by then had a restraining order requiring the Phillipsburg interchange, claiming that taking cars from LV at Oak Island would disrupt service to its customers and would deprive it of so much revenue that its reorganization plan might be completely frustrated.

"Eventually," says a CNJ statement, "it is expected that CNJ and LV will interchange certain freight at Oak Island with a more favorable division of revenue for CNJ." Meanwhile, CNJ had already effected an agreement with the Erie Lackawanna and affiliated Delaware & Hudson transferring their interchange points from the Scranton/Wilkes Barre area to a CNJ branch line near Dover, N.J., with all traffic moving over EL to that point. This, in effect, eliminated the former CNJ line now being operated by Lehigh Valley. Other route changes in conjunction with the Baltimore & Ohio and Reading were to move so-called "Alphabet Route" and "Central States Dispatch" interchanges from Allentown, Pa., to Bound Brook, N.J., again eliminating LV participation.

In a petition to Judge Fullam, Lehigh trustees then stated that there were "forced to assume all the service obligations of CNJ within the Commonwealth of Pennsylvania, but are restrained from interchanging traffic at points which would provide LV with compensatory revenue."

The Central Railroad of New Jersey has lost in excess of $100 million in the past dozen years with its current bankruptcy dating from 1967. Its troubles go back much further. Built and equipped to handle traffic consisting primarily of anthracite coal and suburban passengers, the road has been in a decline for much of this century. Its main line from Jersey City to Scranton paralleled closely that of competing Lehigh Valley and slumping coal traffic from Northeastern Pennsylvania was divided with not only Lehigh, but with the Erie, Lackawanna, and long-abandoned routes such as the New York, Ontario & Western; Lehigh & New England; and New York, Susquehanna & Western. Interestingly, Susquehanna survives as a profitable terminal carrier in the highly industrialized northeastern corner of New Jersey, a virtual prototype of the railroad which reorganization envisions CNJ is also to become.

Late in 1970 CNJ's financial situation became critical, leading to such expedients as prepayment of the State of New Jersey's commuter subsidy, plus other state aid. In February 1971 R.D. Timpany, then an assistant vice preisent of Penn Central, became CNJ trustee. Soon he devised the so-called "Blueprint for Survival" which called for the Pennsylvania abandonments plus also those of eleven line segments in New Jersey, including the routes to Phillipsburg and Lake Junction where CNJ is now making its LV and EL interchanges. This plan made possible a $6 million government-guaranteed loan that alleviated some of the immediate financial pressure.

Also included in the plan were to be modifications of work rules, new arrangements with the State of New Jersey to relieve CNJ of all passenger losses, proposals for new revenue divisions with connecting roads, and a lease of waterfront property to the Port of New York Authority at Elizabeth, N.J., that would yield not only rent but up to

JERSEY CENTRAL locomotives are getting bright red paint; new emphasis on serving New Jersey port area is pointed up by stylized Coast Guard insignia surrounding traditional Statue of Liberty emblem.

$2 million in freight revenue yearly. By May 1971 CNJ filed for the abandonments and moved to implement the other changes.

Lehigh Valley, now operator of virtually all CNJ lines in Pennsylvania, with exception of the vestigal 40-mile Lehigh & New England, looked at the pending abandonment as a means of enhancing its own reorganization which dates from July 1970. The estimated $10 million in additional annual revenues were based on the premise that LV would take over the entire operation, including L&NE, and retain all traffic that was being moved by CNJ at the time of the LV application to ICC in August 1971.

LV began to make plans for performing new services. Its operating department outlined a plan of operation for the new traffic—what added trains would be required; how CNJ-operated Allentown Yard would fit into the new LV scheme and how many displaced CNJ employees might be involved. These details, plus an estimate of about $6 million in annual operating costs, were submitted to ICC as part of LV's service order application.

The countdown to shutdown (and startup) was a difficult one for LV. In December 1971 CNJ's reorganization court had authorized the suspension of operation in Pennsylvania, a step sustained by the U.S. Supreme Court on March 20, 1972. On March 24 LV got its service authorization from ICC and the following day CNJ embargoed service for its Pennsylvania customers.

By March 29 the ICC forced CNJ to resume service. The next day the bankrupt Reading indicated a willingness to operate the Allentown-Wilkes Barre route if (1) there would be a 30-day delay and (2) if the Commonwealth of

Pennsylvania would indemnify it against any loss. While preservation of CNJ service had been a major goal of Pennsylvania Governor Milton J. Shapp, there was little prospect that the financially pressed Commonwealth could act. LV prepared to take over.

During March, LV had held a series of meetings with CNJ and Reading operating officers to assure an orderly transition, particularly as it involved the two-hump CNJ-operated Allentown yard which served all three roads. Since 1965 CNJ and LV have had joint operation of the Allentown—Wilkes Barre route which had permitted substantial line abandonments by both roads. The CTC control for this route was operated by CNJ. In the final days of its operation, CNJ had derailments involving a coal train on the Nanticoke branch and a yard locomotive at Allentown which were left for LV to clear.

All this occured during the "ham and cheese" period in LV's executive offices at Bethlehem, Pa., where Trustee John F. Nash and his staff lived on sandwiches as they awaited the outcome of the various regulatory and legal processes. As March 31 drew to a close, LV finished the last of its temporary agreements with the various unions, completed leases for nine additional locomotives, signed on temporarily 287 of 600 displaced CNJ employees, and took legal action to keep the joint CNJ/LV CTC system in operation. Flexi-writers for LV's car reporting system were installed at Allentown and the Reading continued to work closely with LV to assure uninterrupted operation of the big yard.

The transition occured on Easter weekend, not a propitious time for getting courts and regulatory agencies to render decisions. At the moment of takeover, several LV trains were enroute on the Wilkes Barre—Allentown line. At 12.35 a.m. on April 1 the first train (from the Reading) rolled into Allentown Yard and by 1:45 a.m. it was enroute to Oak Island on the Lehigh where it arrived at 4:20 a.m. for delivery to CNJ. This was the interchange that was to be stopped almost immediately by Judge Augelli's restraining order.

LV is serving former CNJ customers to their apparent satisfaction, including the largest—New Jersey Zinc at Palmerton. Tentatively, permanent agreements have been worked out with the operating unions. Lehigh would expect to abandon about 75 miles of track in a further consolidation in the former jointly operated territory.

Right now, however, LV sees its projected gross of $10 million annually being cut to $6 million if former CNJ traffic does not move over its lines. There would not be a comparable drop in operating costs which puts LV's expanded operation in a marginal status.

Lines on Labor

GUS WELTY

MEASUREMENTS AND PAPERWORK

Mention "productivity" in the railroad industry, and the first thought is of such things as crew assignments, the 100-mile day, road-and-yard restrictions. Much of the emphasis on improved productivity has indeed been in the transportation department and in M/W and M/E operations. But opportunity also exists—opportunity to do a better job at lower over-all costs—in the clerical work that underlies almost every phase of railroading. And it was this area that Milwaukee Road President Curtiss E. Crippen was talking about at a recent AAR seminar.

CLERICAL WORK MEASUREMENT: WHAT CAN IT DO?

Crippen's thesis was that personnel utilization and management have not kept pace with technological improvement (a familiar thesis virtually anywhere in the business). And he backed up his point with the figures—figures indicating that (1) between 1965 and 1970, automation notwithstanding, the number of railroad clerical employees declined at no faster a rate than rail employment generally; and (2) during this same period, total clerical employee compensation and benefits went up by 20% while clerical cost per carload rose by 30%. That's for the industry as a whole. Where work-measurement programs have been placed in effect, things are somewhat different. At Milwaukee, Crippen said, productivity in certain areas has been increased as much as 47% while the total Accounting Department work force has been reduced by as much as 30%. At present wage/benefit levels, this translates into a saving of more than $1.5 million a year.

Crippen also noted AAR estimates that (1) about 38% of rail clerical employees are covered by some form of work measurement; and (2) where such programs have been set up, clerical costs have gone down by about 17%. "If similar programs were extended to the remainder of the industry's clerical workers," Milwaukee's president concluded, "it has been estimated that a yearly savings of $80 million could be realized—enough, for instance, to buy 4,500 freight cars."

Essentially, work-measurement programs can do three things: (1) Provide analytical tools needed to measure the tasks involved in each job; (2) help in the setting of performance standards for each position; and (3) enable supervisors to monitor output in meaningful fashion.

Crippen gives both supervisors and employees high marks for *wanting* to do a good job. And in any measurement program—especially one involving outside analysts or consultants—he pleads for communication between management and clerical supervisors and employees: "If a system of work measurement is arbitrarily instituted, people will naturally resist and the benefits from it will be small. But if the proper groundwork is laid and the purpose explained, gaining the necessary cooperation is not difficult. In fact, when a realistic and reasonable program of work standards has been established, it is usually readily accepted by the people it involves."

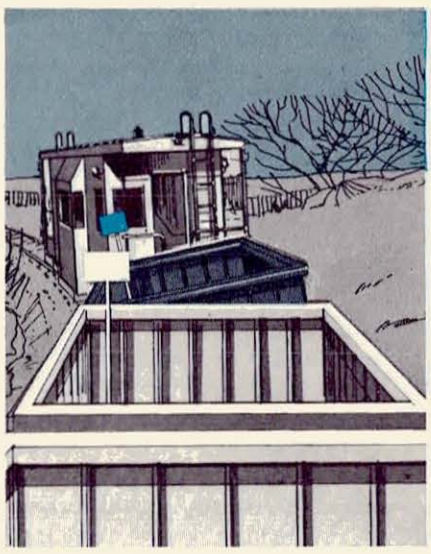
There is, of course, a fine line between the under-management that has sometimes plagued the industry and the over-management that outsiders might want to impose. But, there's also no doubt that standards must be set. Hopefully, as Crippen puts it, the standard-setters "will always remember that they are dealing with people."

ASF® does something about Rock and Roll

We all know that for years, rock and roll has not been sweet music to railroad men. Instead, it's been a big headache!

Now, ASF has done something about this problem by creating the new Simplex Side Bearing. Here are some of the features:

1 Designed to control car body rock and roll to within safe operating limits.



2 Uses a modified Simplex Snubber which has a successful 30-year history on American railroads.

3 Completely mechanical in operation.

4 Will fit existing and new cars.

5 Successfully tested on ASF's test train and on hopper cars in rugged coal and grain service under severe operating conditions.

For more data, please write or call **"The Stronger Than Steel People."**

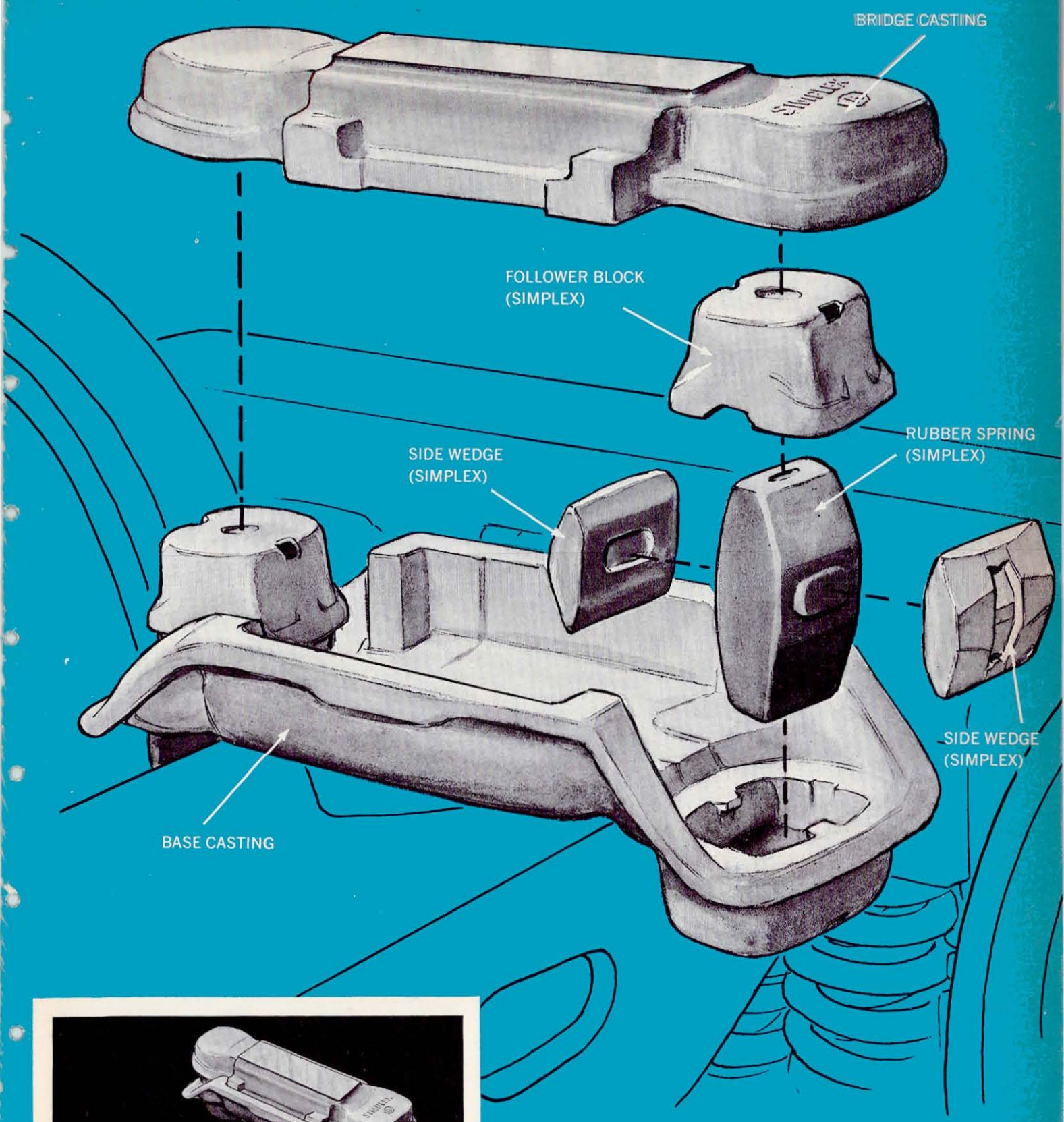
American Steel Foundries

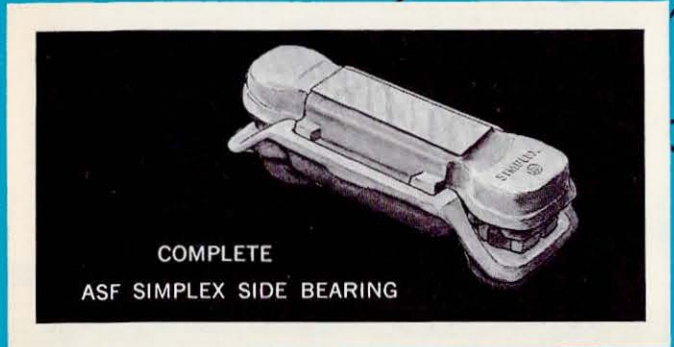
ONE OF THE Amsted INDUSTRIES

Prudential Plaza • Chicago, Illinois 60601
In Canada: IEC-Holden, Ltd., Montreal, 376, Quebec

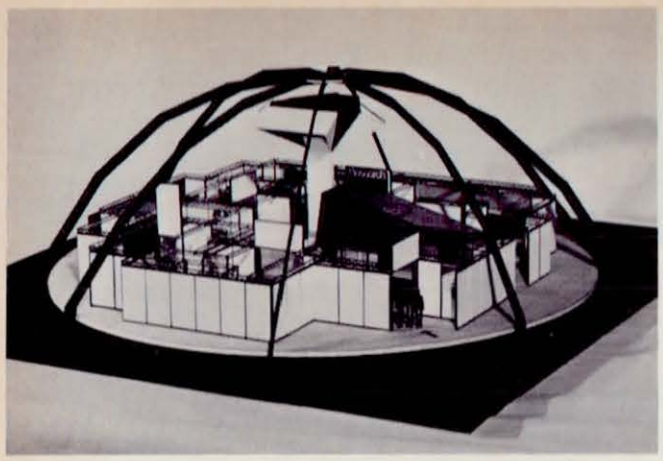
Circle 7 on coupon page 39

ANOTHER FIRST FROM
"The Stronger than Steel People"

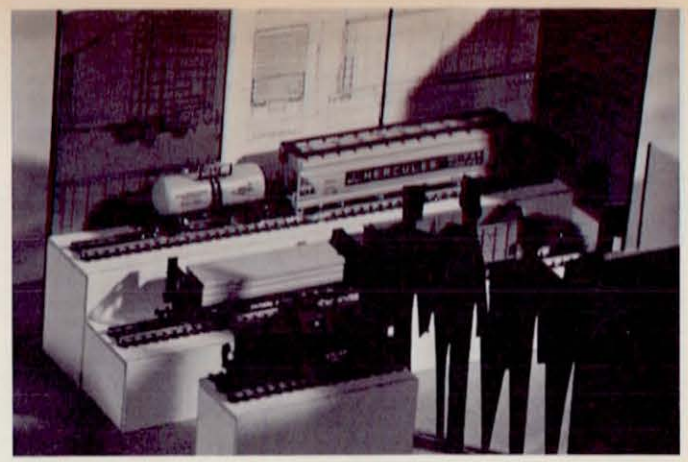




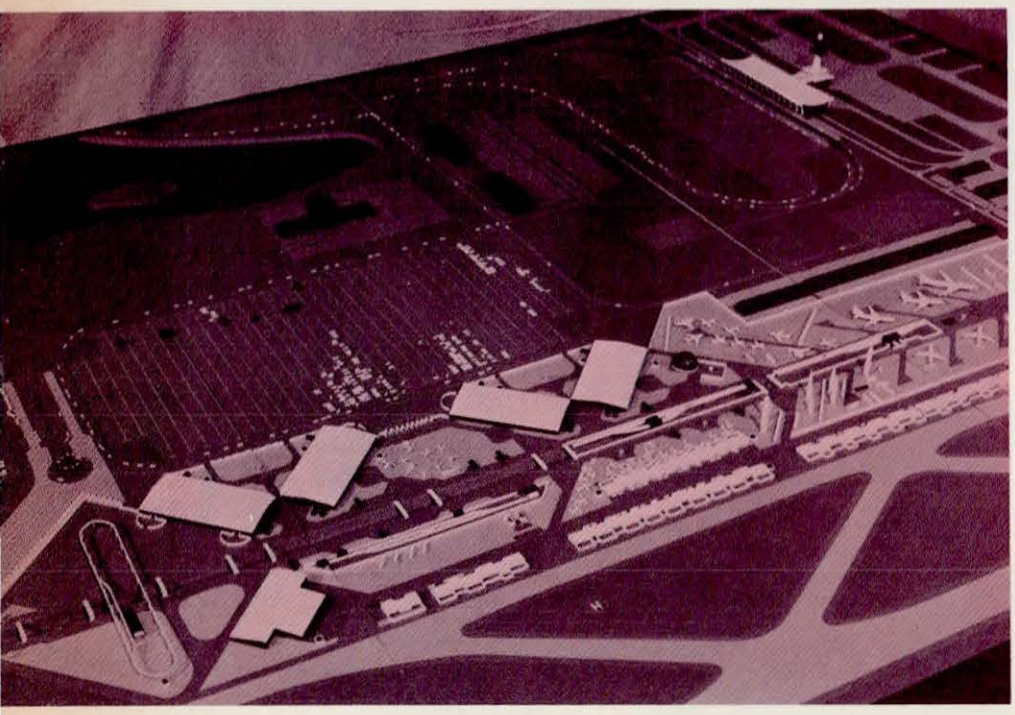
COMPLETE
ASF SIMPLEX SIDE BEARING



FRA will group rail exhibits in Roundhouse '72 geodesic dome.



MODERN FREIGHT cars in miniatures like these will be shown.



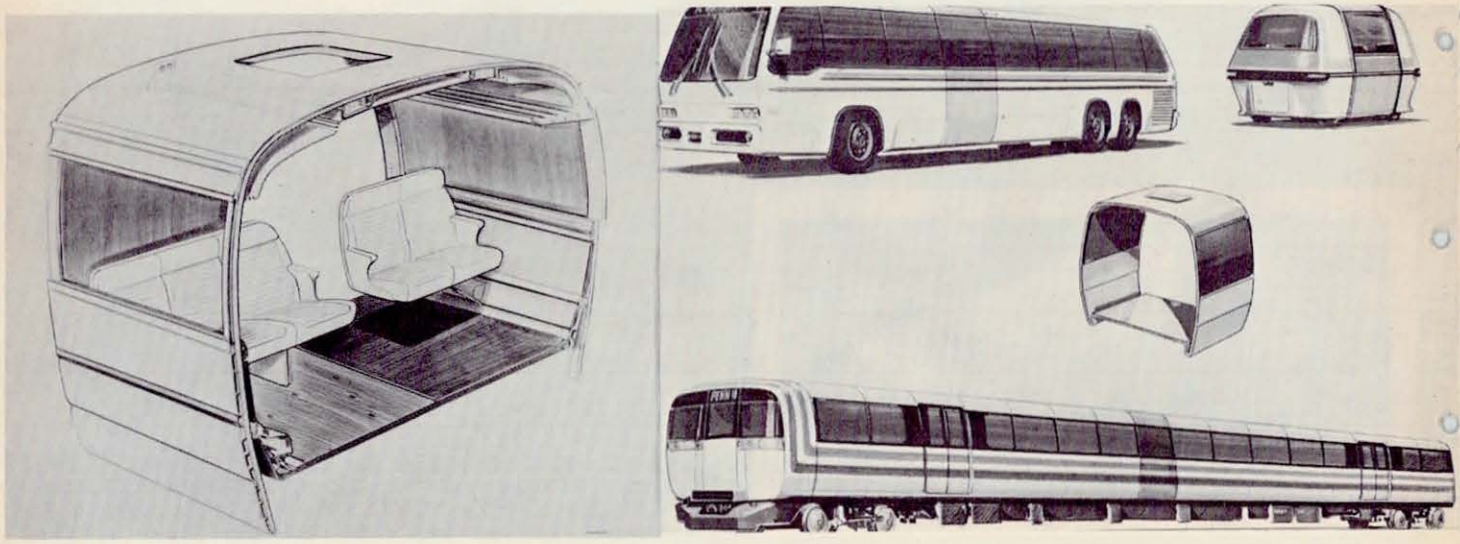
DULLES AIRPORT is the site, with rail exhibits at lower right, transit lower center.

What to

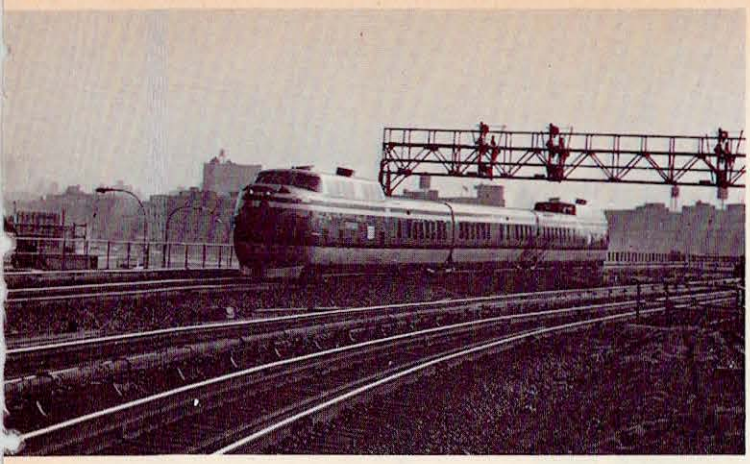
The drum-beating and hoopla over Transpo '72 were a little late in coming. But when they came, they *really* came. Dot's International Transportation Exposition, scheduled for May 27—June 4 at Dulles Airport near Washington, D.C., looks to be quite a show.

It started out on the wrong foot. The main impetus, and it's no secret, was to get this country an airshow—and showcase for airplane sales—comparable to the big European air shows.

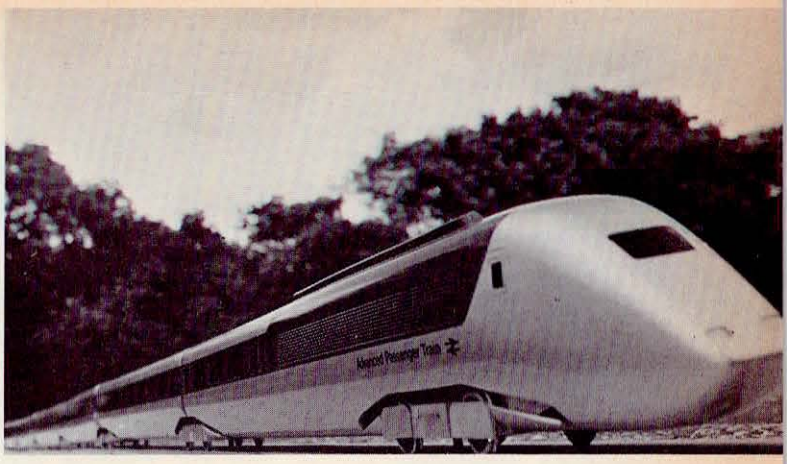
Fine and dandy, but what railroader, trucker, transit man or barge man wants to play second fiddle to the aviators at a site with neither rail access nor a large body of water? Even road access is severely limited by just one main highway leading into town—and there are bad vibes still hanging around from the last time a big show was tried at Dulles; the traffic jam backed up the road for 14 solid miles.



GENERAL MOTORS has transit modules to exhibit—put them together as building blocks for just the vehicles you need.



TURBOTRAIN in New England service will turn up at the show.



BRITISH EXHIBIT will have APT (above) and Hovercraft models.

look for at Transpo

No, this show started off on two left feet. DOT planners couldn't make up their minds whether to beam it at professionals or at the general public. Was this one for the buyers or the picture-snappers?

Characteristically, DOT decided to go ahead and play it for both. That may or may not work. But one thing is sure: All the coaxing and cajoling to get other modes besides the aviation people to participate finally, belatedly, almost at the eleventh hour, paid off.

It still won't be cozy for railroaders: real, live vehicles have to be dismantled, trucked to the site and reassembled there. As a result, many chose to limit themselves to mockups and models. Still, that participation list of public and private exhibitors has been growing by leaps and bounds lately: 45 countries and over 350 industrial firms, at last count.

The upshot is that this is going to be a big, important show after all, and DOT is forecasting attendance of 1.4 million (beginning with Richard M. Nixon) over the nine days, plus the preceding preview day. About 350,000 of those visitors are expected to be businessmen, and around 50,000 visitors are expected from overseas.

For professionals, it's important to note that on the four weekday mornings, the one million sq ft of display space are closed to the public. That's the time for the pros to do their own thing—examine the exhibits closely, question the exhibitors and if the spirit so moves, talk orders and delivery dates.

Also for professionals, two dozen conferences are taking place downtown on such topics as air cargo, highway safety, urban problems, and vehicle design.

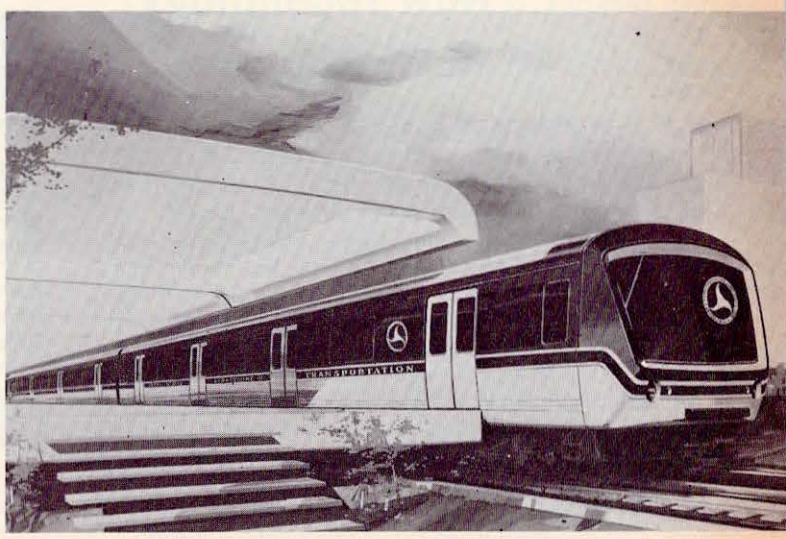
For railroad and transit men, the major points of interest are the Federal Railroad Administration exhibit, the Urban Mass Transportation Administration exhibit, and related equipment and booths grouped close by.

FRA was given a choice site—right near the Transpo entrance—to build an 80-ft geodesic dome known as Roundhouse '72. In cooperation with the AAR and Amtrak, there will be mounted mockups, display cases, slide shows, films, and some actual operating hardware representing the past, present and future of rail transportation.

The passenger area, prepared by Amtrak, will have an illuminated route board showing the country's existing main-line system, models of new station modules, a presentation on Metroliners and other modern services, and an operating exhibit of automatic ticketing.

The freight area, which the AAR assisted in setting up, will have models

SLIM-LINE door control by Vapor Corp. can be seen on BART car.



VERTOL'S two State of the Art transit car mockups will be seen.

Photos courtesy Rohr Corporation and Bay Area Rapid Transit District

Vapor Door Operators "fit in" With BART's New Technology For Rapid Transit Cars

The Vapor Dor-Trol door operator is just one of the many components that meets performance requirements and makes the BART car the fine car that it is. Designed to fit, Vapor's lightweight door operator package fits like it belongs because it was engineered to meet interior and exterior aesthetics of the BART car. This Vapor slim-line door operator, mounted in the walls, off the floor, offers greater reliability and easy accessibility for inspection. Unseen and quiet, people riding in the car never know it's there. But it functions for their safety, keeping the doors closed while cars are in motion, automatically opening the doors when the cars have stopped. Interfaced with BART's automated train operation, Vapor's sensitive edge interrupts the door closing cycle if the door panel is halted by a passenger's hand or foot. To minimize train delay in the station, this Vapor approach provides a gentle pulsing action that alerts passengers who block doorways.

These are just a few of the "advance concept" product ideas Vapor has developed in conjunction with transit authorities, consulting engineers and car builders.

Vapor Corporation has total capability to provide complete door operating and signal control systems as well as speed indicating, air comfort control and heating equipment for your transit, railroad, commuter cars or public transportation vehicles.

Vapor Corporation also designs, develops and manufactures electronic, electromechanical and pneumatic products to meet the high standards of reliability and performance demanded by today's transportation systems.

For information contact the Transportation Systems Division, Vapor Corporation, 6420 West Howard Street, Chicago, Illinois 60648. In Canada, Vapor Canada Limited.

See us at Booth No. D4305, Transpo 72, United States International Transportation Exposition, Dulles International Airport, Washington, D.C. May 27-June 4, 1972.

SINGER

VAPOR CORPORATION

Circle 8 on coupon page 39

of automatic yards (Santa Fe's Argentine Yard in Kansas City); ACI (Sylvania and WABCO systems); and maintenance facilities (the Union Pacific's North Platte facility). There will also be miniature and mockup freight cars, containers, unit trains and intermodal handling equipment.

Other areas within the same dome will be given over to rail testing; grade crossing protection and obstacle detection; DOT's Alaska Railroad; and advanced concepts such as linear induction motors (a working model), tube vehicles and new tunnelling machines.

No rail spur leads into the exhibit. But for what real live equipment there is, some 230 ft of track will be laid alongside the FRA dome. Here visitors will see United Aircraft's TurboTrain (the one from the DOT-sponsored New York-Boston service will be borrowed for the show; the one in Washington-Parkersburg service will take over that run for the duration).

Separately, UA is showing a stripped-down suspension system for the TurboTrain to illustrate how the banking device works on curves. There is also a miniature model of the TurboTrain in action.

Also on rails outside the dome will be two old-time vehicles. Southern Railway will lend the "Best Friend of Charleston," the first regularly scheduled passenger train, going back to the 1820s. There is also to be an old-time trolley, as yet unselected.

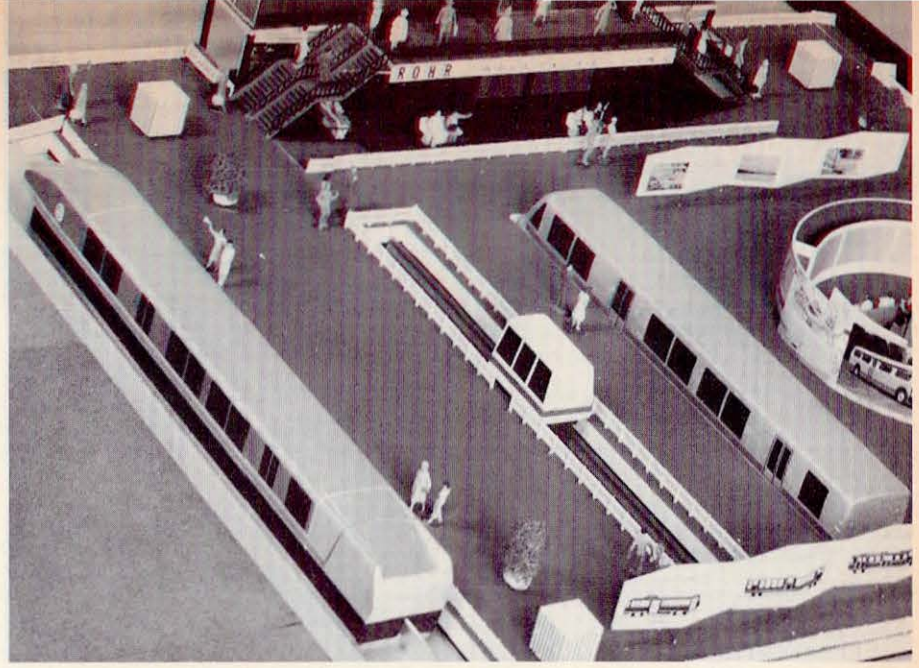
Not on rails but mounted on its own mockup guideway will be Grumman's 300-mph Tracked Air Cushion Research Vehicle. This vehicle is the real McCoy, stopping over for the display at Dulles before heading to DOT's Pueblo R&D Center for testing.

Foreign rail-oriented exhibits are British Railways' high-speed Advanced Passenger Train in a 50-ft mockup; the British Tracked Hovertrain in miniature, a complete locomotive washing plant and conventional rail components. The French Ministry of Transport will display modern French rail service in slides and models, in cooperation with SNCF and seven French suppliers and consultants. The West German Transport Ministry will do the same. Canadian Marconi will demonstrate microwave communications equipment.

Among U.S. manufacturers, PPG Industries will be showing fiberglass coatings, finishes and windows for main-line rail and transit applications. Houdaille Industries has shock absorbers and ride control systems on display.

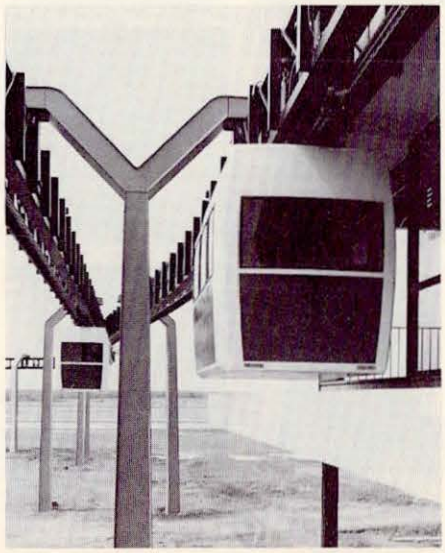
Avco Corp.'s Lycoming Division will display gas turbines, "probably" including those supplied to the German Federal Railway and Japanese National Railways for their respective turbine-powered trains.

Raytheon Co. is not concentrating on rail technology in its exhibit, but will

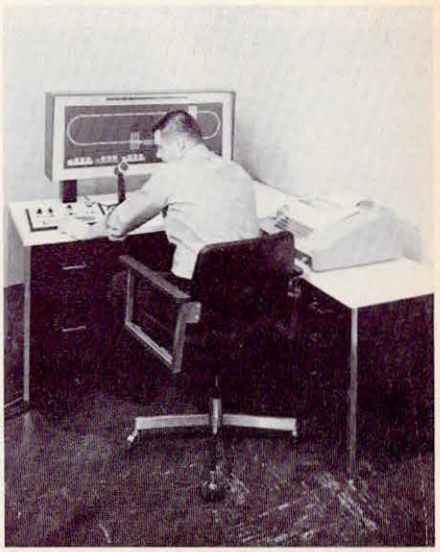


ROHR will show a real live BART car, plus two exotic vehicles and a new bus.

WABCO is set to show a three-car people-mover ordered by Houston Airport.



UMTA sponsored and will show four people-movers, such as this Rohr-built Monocab.



GRS has an electronic supervisory control console for people-movers to show.

Vapor Slim-Line Door Operator "fits in" With NYCTA's New Super Subway Car

How?

Vapor's Slim-Line door operator "fits in" between the outer sheathing and interior walls of the car. This puts **Slim-Line** up off the floor where it is always clean and convenient to inspect.

And **Slim-Line's** light-weight, completely unitized package makes it easier and quicker for carbuilders to install.

Then too, **Slim-Line** permits the car designer greater freedom of body styling and seating arrangement.

More important, **Slim-Line** "fits in" because we meet the exacting demands for performance and reliability expected by the New York City Transit Authority.

And that's what we're talking about when we say **Slim-Line** "fits in."

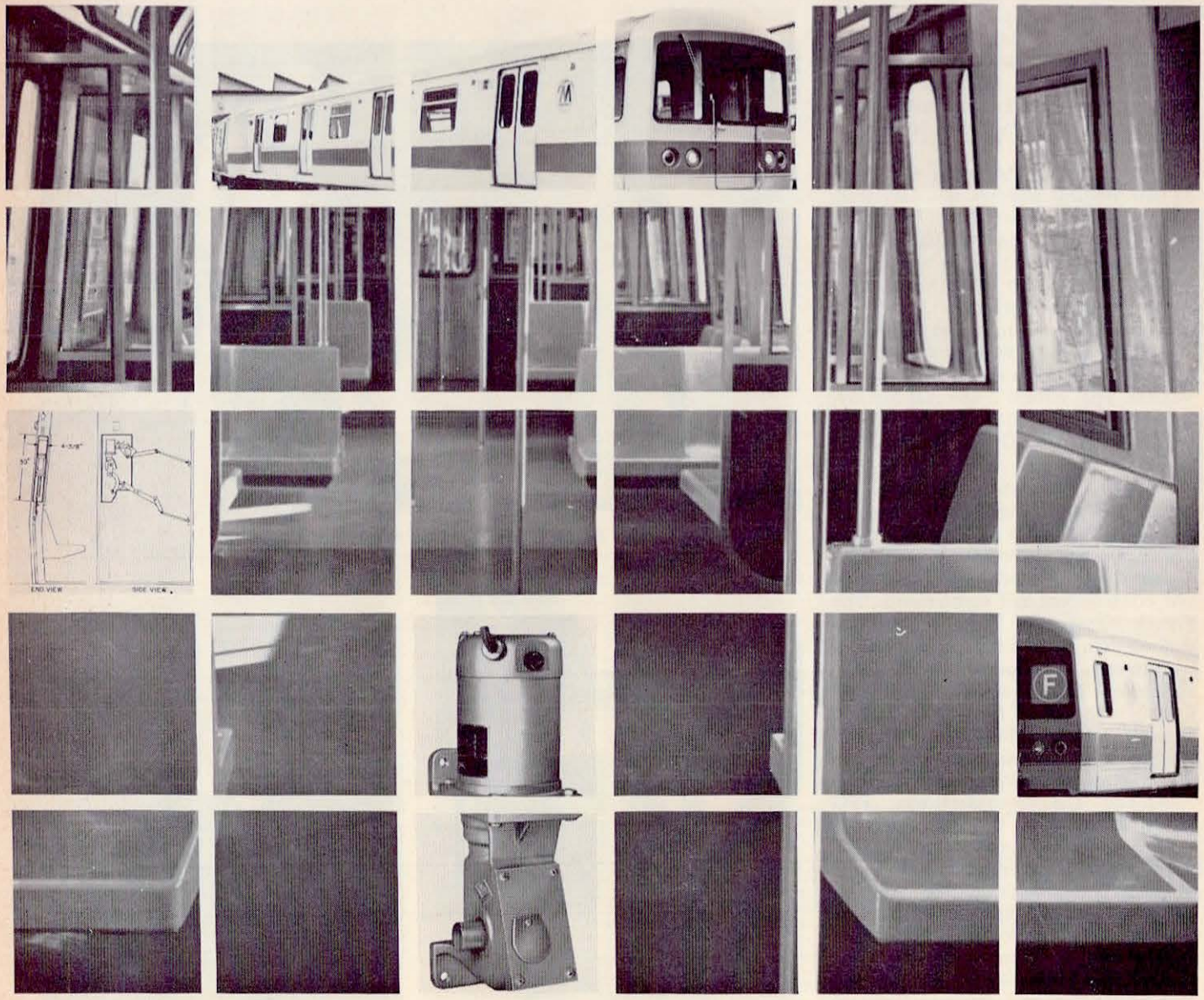
See for yourself. Let us show you how **Slim-Line** "fits in" for you. Ask to see our color movie, "People On The Move."

The **Slim-Line** door control system is just one of the "advance concept" product ideas Vapor has developed in conjunction with transit authorities, consulting engineers and carbuilders.

Vapor Corporation has total capability to provide complete door operating and signal control systems as well as speed indicating, air comfort control and heating equipment for your transit, railroad commuter cars and people mover vehicles.

Vapor Corporation also designs, develops and manufactures electronic, electromechanical and pneumatic products to meet the high standard of reliability and performance demanded by today's transportation systems.

For information contact the Transportation Systems Division, Vapor Corporation, 6420 West Howard Street, Chicago, Illinois 60648. In Canada, Vapor Canada Limited.



Photos Courtesy—New York City Transit Authority

See us at Booth No. D4305, Transpo 72, United States International Transportation Exposition, Dulles International Airport, Washington, D.C. May 27-June 4, 1972.

SINGER

VAPOR CORPORATION

Circle 9 on coupon page 39

touch on magnetic field research with applications to cushioning and guiding TACVs.

Vapor Corp., manufacturer of temperature controls, door controls, speed indicator equipment and Newmatic chemical retention toilets, will have both its own booth and Vapor equipment mounted in the transit section on vehicles displayed by Ford, Otis, Bendix, WABCO, Rohr, LTV and Monogram.

Which brings up the point that the transit display will be big and varied. Both UMTA and private manufacturers promise an array of live equipment and equipment models.

UMTA's display is built around the theme, "UMTA is doing something to move people," and will highlight its work to promote pollution-free busses, and systems management in design.

There are also the four people-movers developed under UMTA's sponsorship—all working prototypes which incidentally will aid in moving people around the exhibit grounds: Bendix Corp.'s Dashaveyor; Rohr Industries' Monocab; Ford Motor's ACT (Activity Center Transportation); and Otis Elevator's TTI (Transportation Technology, Inc.) system. All are highly automated PRT (personal rapid transit) vehicles operating over, or suspended from, special guideways.

In addition, Rohr is showing an actual Bay Area Rapid Transit car, one destined for San Francisco this summer. Rohr is also displaying a mockup of its urban tracked air cushion vehicle, developed in cooperation with two French firms, its ROMAG (magnetic levitation and propulsion) vehicle, a Flexible bus, and a model of a materials-handling system.

WABCO's Monorail Division is displaying its own people-mover, a three-car, rubber-tired train being supplied to the Houston Airport (the 11th and latest customer for WABCO monorails).

UMTA and Boeing's Vertol Division are jointly displaying two full-size mockup State of the Art Cars (SOAC), systems-managed by Vertol and built by St. Louis Car Division of General Steel Industries. The cars, designed to show the best in present-day rail transit technology, have stylized interiors and are equipped with chopper controls. The propulsion system is from the AiResearch Division of Garrett Corp.

General Railway Signal, which is supplying electronic command and control equipment for LTV's people-mover being installed at the new Dallas-Ft. Worth airport, and for the TACV being built by LTV for UMTA, will also be represented at the show by electronic command and control equipment for Rohr's Monocab people mover.

TRW will separately display a mockup of the central control computer, programming equipment and data transmission system being sub-contracted to GRS for the latter's automatic train control system, to be installed on the Washington Metro.

General Motors will have important displays covering a range of surface, sea and air vehicles. Of special importance in the transit area will be a display of modules for use as people-movers, or as building blocks in assembling busses or railcars for urban or suburban service.

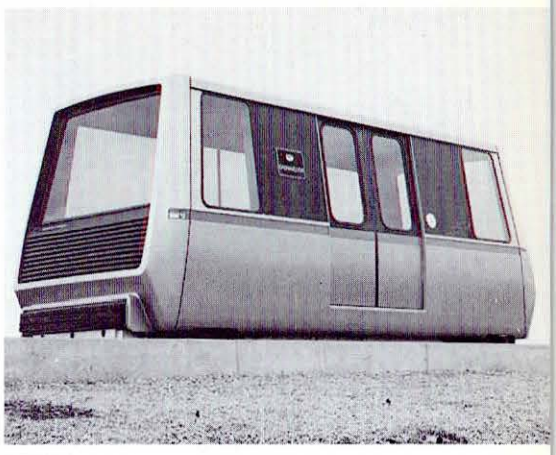
The modules, five ft long, can be varied in height and depth, and feature stainless steel exteriors, flush windows, built-in heating and air-conditioning ducts, and three-and-two seating. In rail transit applications, such modules could be welded in series to make a standard-sized rail vehicle, varying in length according to number of modules.

Also, the GM modular railcar could be bimodal—capable of operating electrically from a third rail or overhead supply, and with gas turbines.

The Railway Industry Assn. of Great Britain will also have a display booth aimed at familiarizing visitors with British transit capabilities.

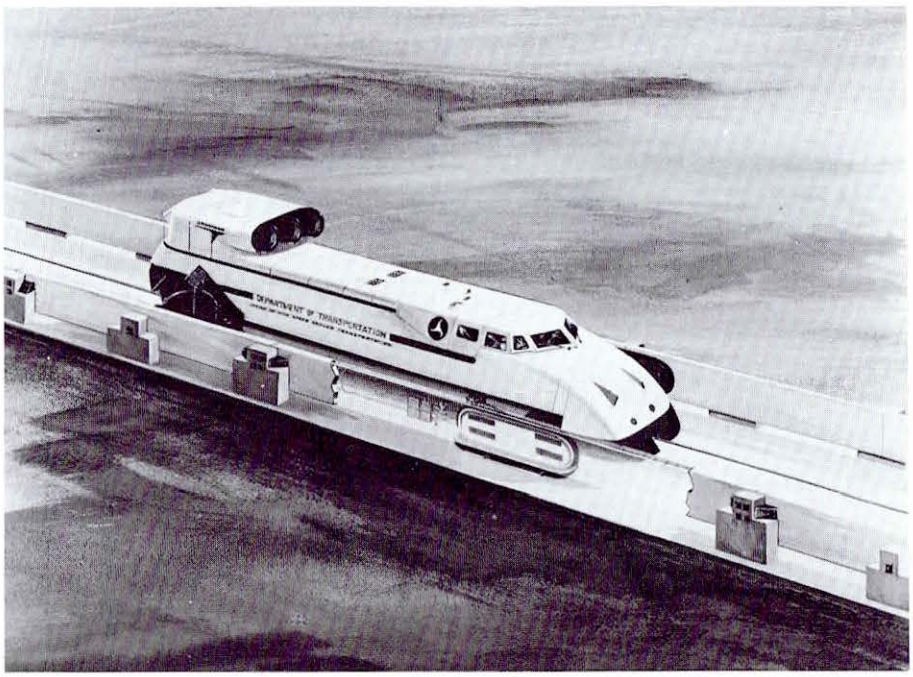
In line with the UMTA theme of doing something about congestion and pollution, the American Transit Assn. will have its own booth with slides and films on transit progress. ■

OTIS vehicle rides on an air cushion.

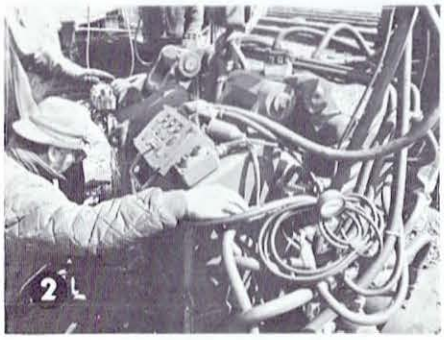


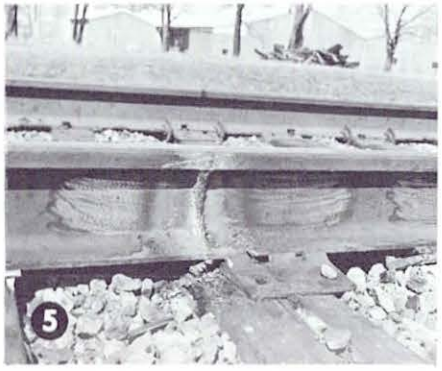
BENDIX Dashaveyor is electrically run.

FORD'S ACT vehicle is more bus than taxi.



GRUMMAN'S 300-mph TACRV will stop at Dulles show, then head for Pueblo Test Center.





ATSF field-tests new rail welding

Sparks have been flying as Santa Fe makes its first field test of the in-track rail welding process introduced in the U.S. by Holland's Railweld Division (RA, March 6, p. 32; April 10, p. 15). There are four steps to the procedure. First, a rail saw is used to cut away about 18 inches from each rail in the joint bar area (1); rails are also marked to indicate the area to be polished to insure proper contact of the electrodes. The two rails are winched into position and the welding head is properly positioned (2). The weld is then made (3). Finally a polisher is used to smooth the bearing surface of the rail (4). The finished joint (5) is ready for service.

In early tests, the welding rate was not what had been hoped for, due, it was indicated, to the time required for pre-welding rail preparation. Santa Fe is using the in-track process at two locations, adding up to 13 miles of mainline track in Illinois. It will then make its evaluation of the relative efficiencies and economics of in-track, as opposed to fixed-location, welding.

USSR has real jet powered train

The U.S.S.R. claims that it has successfully tested a railcar powered by aircraft jet engines and in the "near future" will have a three-car jet-powered train in service. The end cars will have turbojet engines protruding from the roof. The middle car will be electrically powered. "The section running on electric motors will move the train from the station quite noiselessly, the turbines will be switched on later," according to a report by the Novosti Press Agency.

(In July 1966 the New York Central attached two General Electric J-47 turbojet aircraft engines to the roof of a Budd RDC and achieved a speed of 183.85 mph on a 24-mile stretch of main line between Butler, Ind., and Stryker, Ohio. The NYC experiment was designed to test not a new propulsion system, but the effects of high speeds on equipment and track. The car was later restored to revenue service with its regular diesel engines.)

In the interests of economy, the Russians plan to use old aircraft engines because, as Novosti pointed out, "after service in the air the engines can be used for a long time on the ground."

The heavily-instrumented test car, designed by engineers at the All-Union Train Research Institute with the help of aircraft designer Alexander Yakovlev, was built at the Kalinin railroad works. The car has aerodynamic fairings and a skirt enclosing the running gear. To keep the car on the rails, a new spring suspension system was devised. Details of the design were not disclosed.

Novosti said that conventional rail on reinforced concrete ties "readily withstood" the test speed of 155 mph. The report claimed that "the jet coach, doubling the speed of ordinary express trains, builds up a stress on the rails that is two times less." The stress on the running gear, said Novosti, "proved to be several times weaker than ordinary stress."

Turbine-powered trains are not new. United Aircraft designed TurboTrains for the U.S. and Canada, and the French have several similar trains in service. But the turbine engines are specifically designed for these trains, which they drive through the axles—as opposed to the Russian concept of jet thrust.

Several years ago a U.S. manufacturer toyed with the idea of jet-powered trains in the Russian manner but rejected it for a number of reasons. One was that this builder saw the future of U.S. rail passenger travel as almost exclusively being in densely populated corridors that would not take kindly to the noise and jet-blast that such a train would produce.

Circle 10 on Coupon Page 39 ▶

PLANNING GUIDE

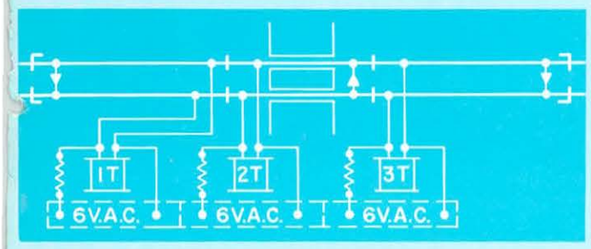
FOR

Safetran TOTAL PACKAGE SYSTEMS

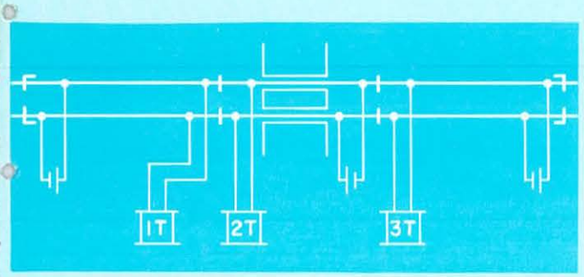
for RAILROAD-HIGHWAY GRADE CROSSING PROTECTION

CONTROL DEVICES

RACO-MIPCO offers a complete line of control devices . . . imaginatively designed and quality built to satisfy both simple and sophisticated railroad-highway crossing situations. Proper application and use will provide desired detection and subsequent protection with minimum vehicular delay.

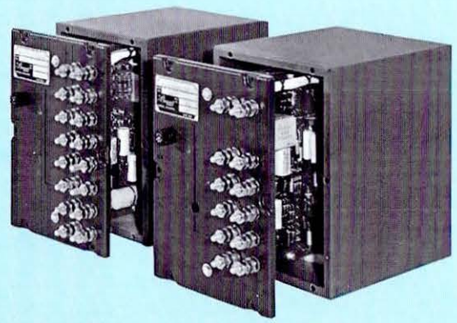


The TYPE "C" TRACK CIRCUIT is suggested for areas where high shunting sensitivity is a requisite. It allows all control equipment, except three track mounted rectifiers, to be housed at the crossing.

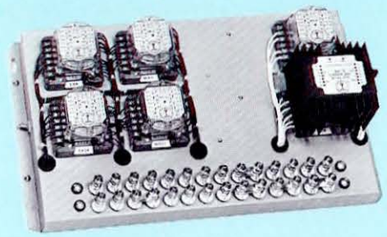


The "DC" TRACK CIRCUIT can be employed in either signaled or nonsignaled territory. Insulated joints are required with both Type "C" and "DC" circuits to isolate individual areas of detection.

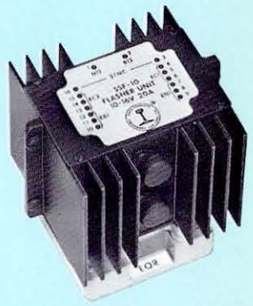
The MIPCO "PSO" PHASE SHIFT OVERLAY TRACK CIRCUIT is a solid state modulated system designed specifically to eliminate insulated joints. It is compatible with other track circuits. Low installation costs, low power consumption and ease of maintenance are among its advantages.



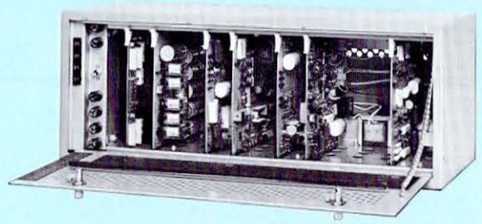
The MIPCO "PMTC" is a PULSE MODULATED TRACK CIRCUIT used for signal and crossing control on electrified or non-electrified track where interference from other sources prevents the use of ordinary tone systems.



The RACO XRL LOGIC CIRCUIT may be used with the foregoing types of track circuits to determine train direction and allow proper operation accordingly. The XRL-10 is a logic unit consisting of MR-10 miniature relays (which meets all pertinent AAR specifications) and a solid state SSF-10 Flasher mounted on a steel chassis and wired to form the logic circuit.



The MIPCO MOTION SENSOR detects motion toward the crossing and operates the crossing devices. When a train stops and/or reverses direction away from the crossing, the Motion Sensor will automatically clear the crossing protection. This allows high speed rail traffic and eliminates unnecessary vehicular stoppages due to switching operations, etc.



The MIPCO "GCP" GRADE CROSSING PREDICTOR is highly recommended to keep signal operations to a minimum at locations where train speeds vary, high density traffic is present and switching moves exist – the highest state of art currently in use. The device is fail safe in design offering constant warning with a solid state analog computor that computes both train speed and distance as it approaches the crossing and activates the crossing protection on a time basis by computing the trains arrival. Elapsed time, from the instant the protection is activated until the train enters the crossing, is the same regardless of train speed. If a train stops before reaching the crossing, the warning signals are also stopped. As the train again starts toward the crossing, the GCP reactivates the crossing protection.

PROTECTION

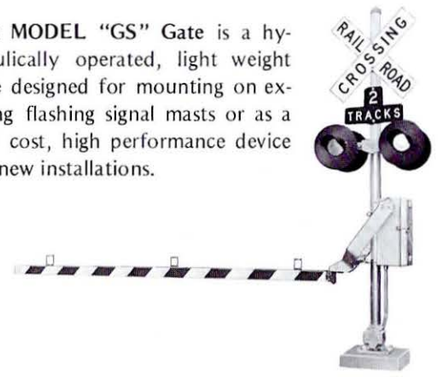
RACO-MIPCO manufacture a complete line of audible, visible and physical warning devices designed to provide maximum protection in a wide variety of railroad highway situations dependably at low cost with minimum maintenance.

The RACO "EM" (ELECTRO-MECHANICAL) GATE is a dependable, heavy duty, pedestal mounted gate featuring extremely low maintenance and fast acting gate arms. Maximum gate arm lengths. – 45'.

NOTE:
The Model "S" and "EM" are also ideal for use in conjunction with cantilever signals.

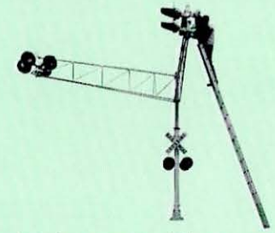
The MODEL "S" is an electro-mechanical mast mounted gate with proven reliability, easy installation and low maintenance.

The MODEL "GS" Gate is a hydraulically operated, light weight gate designed for mounting on existing flashing signal masts or as a low cost, high performance device for new installations.

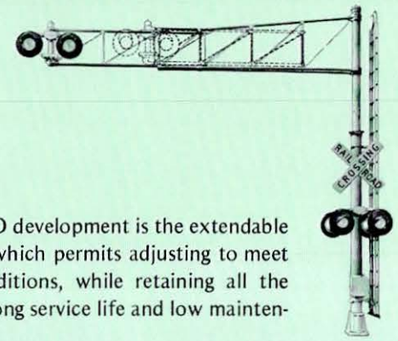


NOTE:
Fiber Glass Gate Arm Kits are available for replacing wood arm on all type of gates. Arms are available striped with a maintenance free reflex-reflective material. The shear bolt feature eliminates mechanism damage and greatly reduces chance of broken gate arms.

At rail-highway crossings with multiple lanes of highway, the RACO all aluminum cantilever signals provide highly visible, arrestive signal indication for crossing protection.



The cantilever arm can be rotated to any position away from traffic allowing a safe maintenance position. During maintenance of lights on the arm, crossing protection is provided by the fixed main mast lights.



A further RACO development is the extendable cantilever arm which permits adjusting to meet most field conditions, while retaining all the advantages of long service life and low maintenance costs.

RACO Aluminum Flashing Light Signals provide greater arrestive indication and protection and allow ease of installation, low maintenance and long service life.

NOTE:
Advance design FLX-10 Light Signal units with 8-3/8" lens or the FLX-12 with 12" lens are available on all protective devices shown. These units more effectively use the light from either high intensity or standard lamp bulbs to produce greater arrestive indication. A built-in sighting tube permits one man to align the lamp unit for the most effective indication to oncoming traffic.

How to Order Your
RACO • MIPCO
TOTAL PACKAGE SYSTEM
TAILORED TO YOUR EXACT GRADE CROSSING NEED

After evaluating your railroad highway grade crossing situation, as it exists, in regard to train traffic, train speeds, number of tracks, switching movements, etc., the following selector guide will help you chose the complete system that best meets the requirements of your particular application.

PROTECTION	TRACK	CONTROLS	POWER
1. FLASHERS	1. SINGLE NO SWITCHES	1. TYPE "C"	1. RECTIFIER TRANSFORMER POWER-OFF RELAY
2. CANTILEVER	2. DOUBLE NO SWITCHES	2. "DC"	2. ATC REGULATOR
3. GS GATE	3. OTHER	3. "PSO"	3. NO STANDBY
4. S GATE		4. "PMTC"	4. OTHER
5. EM GATE		5. MOTION SENSOR	
6. OTHER		6. "GCP"	
		7. OTHER	

EXAMPLE: IF YOUR PACKAGE NUMBER IS: 2 1 1 1

PACKAGE 2111 – CONSISTS OF (2) CANTILEVER SIGNALS ON (1) SINGLE TRACK USING (1) TYPE "C" TRACK CIRCUITS AND (1) RECTIFIER, TRANSFORMER, POWER-OFF RELAY.

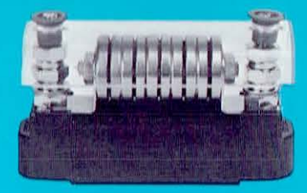
For engineering assistance or complete data on any of the power, control devices or protective equipment shown in this catalog, contact your local RACO-MIPCO representative or sales office.

ACCESSORIES

RACO "CLEARVIEW" LIGHTNING ARRESTER

RACO SEALED RESISTOR

RACO EQUALIZER AND COVER

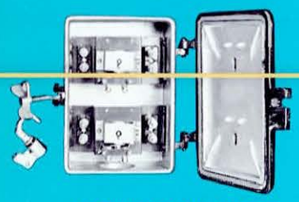

RACO POWER PROTECTOR

RAILHEAD BOND AND PUNCHES

RACO STRAN PIN AND BOND STRAND

RACO BOOTLEG

RACO ADJUSTABLE RESISTOR


RACO KEY OPERATED CIRCUIT CONTROLLER

RACO SOLID STATE PROTECTOR

RACO HEAVY DUTY SURGE PROTECTORS

SAFETRAN OFFICES AND PLANTS

MARQUARDT INDUSTRIAL PRODUCTS CO.

Mr. J. D. Aldern, Vice President & Gen. Mgr.
9271 Arrow Highway
Cucamonga, California 91730
(714) 987-4673

RAILROAD ACCESSORIES COMPANY

Mr. Frank Youngwerth, Vice Pres. & Gen. Mgr.
4650 Main Street N.E.
Minneapolis, Minnesota 55421
(612) 560-4400

Mr. R. A. Molinari, Vice Pres. & Gen. Mgr.
7721 National Turnpike
Louisville, Kentucky 40214
(502) 361-1691

SAFETRAN SALES REPRESENTATIVES

SOUTHEASTERN RAILROAD MATERIALS, INC.

Mr. R. L. Morrow
595 North Avenue N.W.
Atlanta, Georgia 30318
(404) 523-2402

Mr. I. Jack Stephens
1914 Beachway Road, Suite 1-A
Jacksonville, Florida 32207
(904) 398-1193

IN CANADA:

VALE ENTERPRISES, LTD.
Mr. H. J. Vale
1121 Claire Crescent
Lachine, Quebec
(514) 637-2388

SAFETRAN SALES OFFICES

Mr. H. C. Palmer, Vice President Sales & Service
7721 National Turnpike, Louisville, KY 40214, (502) 361-1691
Mr. D. E. Emery, Regional Sales Manager, Eastern
930 Parkside Blvd., Northridge, Claymont, DE 19703, (302) 798-0708
Mr. P. E. Pierce, Regional Sales Manager, North Central
1024 LaFayette St., Aurora, IL 60538, (312) 897-3009
Mr. R. D. Birt, Sales Engineer
4650 Main St. N.E., Minneapolis, MN 55421, (612) 560-4400
Mr. L. G. Phillips, Regional Sales Manager, South Central
1001 East Touhy Ave., Des Plaines, IL 60018, (312) 297-4690
Mr. B. A. Lundy, Jr., Sales Engineer
500 C Beacons Court, Salem Harbor, Andalusia, PA 19020 (215) 638-0751
Mr. W. B. Clinton, Sales Engineer
3112 Thrust Court, St. Charles, MO 63301, (314) 724-2075
Mr. N. B. Smith, Regional Sales Manager, Western
9271 Arrow Highway, Cucamonga, CA 91730, (714) 987-4673
Mr. E. L. Wall, Sales Engineer
1761 Harvest Road, Pleasanton, CA 94566, (415) 846-5274

PRODUCT LINE SUPPORT

Mr. J. V. Hoffart, Product Line Manager, Communications
9271 Arrow Highway, Cucamonga, CA 91730, (714) 987-4673
Mr. R. M. Peters, Asst. Prod. Line Mgr., Communications
1001 East Touhy Ave., Des Plaines, IL 60018, (312) 297-4690
Mr. Paul Martin, Product Line Manager, Maintenance of Way
4650 Main St. N.E., Minneapolis, MN 55421, (612) 560-4400
Mr. H. L. Anderson, Asst. Prod. Line Mgr., Maint. of Way
7721 National Turnpike, Louisville, KY 40214, (502) 361-1691

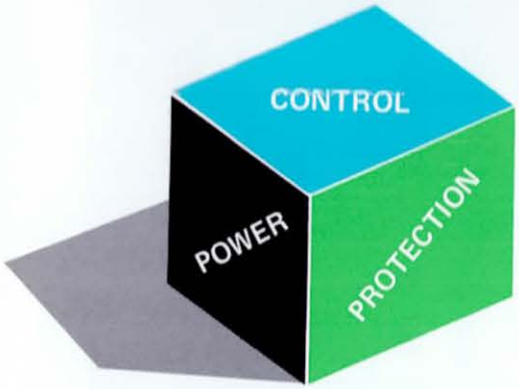
ENGINEERING SERVICE

RACO and MIPCO have the engineering, designing, manufacturing and installing abilities to render professional assistance in providing all types of automatic Railroad Highway Grade Crossing signal protection. Complete turnkey packages or individual equipment are available to up-date or improve existing installations.

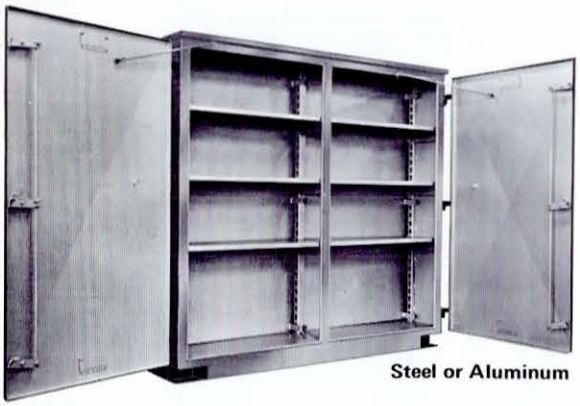
Safetran Systems Corporation

MAIN OFFICE: 7721 NATIONAL TURNPIKE • LOUISVILLE, KY. 40214 • (502) 361-1691

MAY 1972 Printed In U.S.A.



Today, RACO® and MIPCO make it possible to select **from one source with one responsibility, the most complete and reliable line of signal control devices known to the industry.**



Steel or Aluminum

It is with the knowledge that conditions, requirements and desires vary greatly from one location to another that we offer you a complete wired system, designed and built especially for your application—a system incorporating the precise equipment to meet your operating requirements and to assure maximum efficiency at minimum cost with long trouble free life.

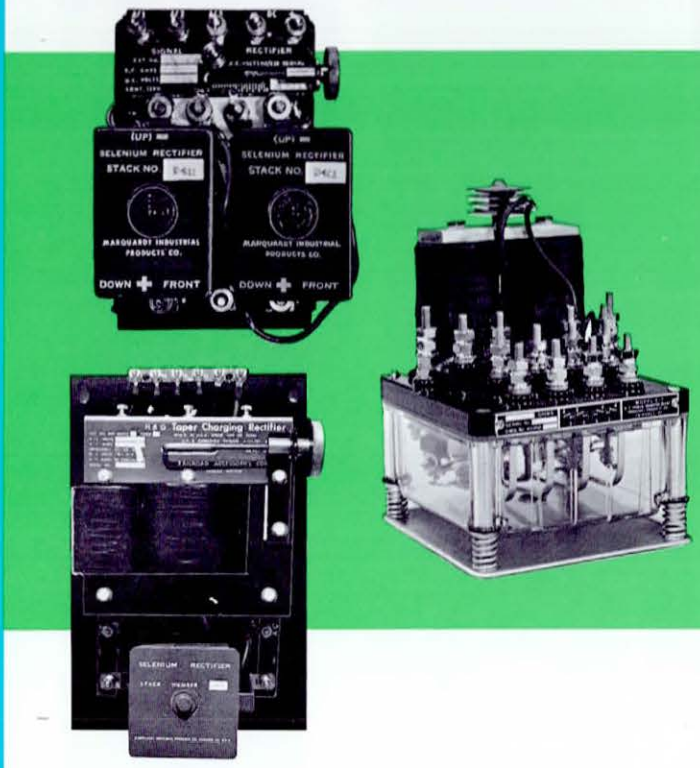
Steel or Aluminum

We at RACO-MIPCO believe that a system designed to protect lives and increase your operating efficiency deserves personalized attention. You are urged to take advantage of the many RACO-MIPCO design engineering, assembly and installation services when purchasing your "Total Package System."

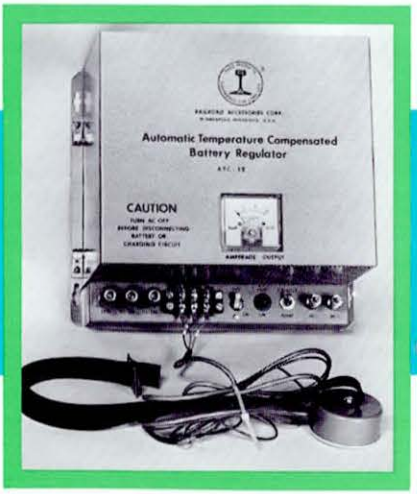
To assist your system selection, a brief description of the basic types of control devices and their operation follow.

POWER

Rectifer, transformer, and power off relay is one method of achieving necessary energy to operate the crossing.
A standard rectifier would be used where the load is essentially constant.



H & G Taper Rectifiers produce a charge rate which varies relative to the load and battery voltage. The charge rate is lower with a fully charged battery and higher for a low battery. This allows the Taper Rectifier to accommodate loads which vary too much to use a standard rectifier.



The Automatic Temperature Compensated Battery Regulator will provide an output voltage and current tailored exactly to load and battery condition. Consequently it will satisfactorily accept widely varying loads and will provide maximum recovery after a power outage. Tailoring the charge to battery condition will decrease battery maintenance and increase battery life.

MOVING PEOPLE

Maryland acts to fund transit

Maryland's Gov. Marvin Mandel has signed into law an act that finances the state's consolidated transportation program through a 2 cent increase in state gasoline taxes and establishment of a $950-million bonding authority for the Maryland Department of Transportation. The state will assume obligations totaling $161 million due the Washington, D.C., Metro system from suburban Maryland counties and pay for one-third of Baltimore's projected rapid transit system. The $950-million fund, to last until 1977, allows the state to finance a unified transportation program, including aid for rapid transit, highway grade crossing protection, ports, and aviation.

Dayton ponders rail vs bus

Dayton, Ohio, wants to put mass-transit vehicles on a 10-mile Penn Central spur extending southward to the town of Centerville. The question is whether these vehicles will be of the "light rail" variety, or buses. A study by the Montgomery-Greene County Transportation Coordinating Committee recommended paving over the right of way for buses. But a group known as DART (for Dayton Area Rail Transit) thought rail prospects had not been sufficiently explored. The U.S. Department of Transportation agreed, and will fund a $35,000 rail-feasibility study.

Chicago-area problems get help from the state

State government is moving on two fronts to attack mass-transportation problems in the Chicago area. In one action, Illinois Gov. Richard Ogilvie named a special task force to study development of a transit system linking downtown Chicago with O'Hare International Airport. Presumably, the study will cover use of commuter railroad facilities as well as extension of the Chicago Transit Authority's Kennedy rapid-transit line. In the second action, legislation was introduced which, in effect, would turn CTA into a Metropolitan Transit Authority covering Cook and five suburban counties in northern Illinois. The proposed MTA would provide and coordinate rail and bus operations and would be authorized to put a tax of up to a half-cent a gallon on motor fuel in the six-county area.

IRT panel will tackle new-car problems

"Building New Cars—Manufacturers, Operators and Government Face the Issues" will be the topic of what promises to be one of the livelier sessions during the four-day annual meeting and conference of the Institute for Rapid Transit in San Francisco June 27-30. Scheduled for June 29, the new-car panel will be moderated by James C. McConnon, chairman of the Southeastern Pennsylvania Transportation Authority. Four carbuilders—Rohr, Pullman-Standard, General Electric and General Steel Industries—will provide the speakers. The operators, the government and the consulting field will provide the panelists. Also scheduled are panels on "Federal Responsibility in Financing Rapid Transit," moderated by Louis J. Gambaccini, vice president and general manager of the Port Authority Trans-Hudson Corp. (PATH), New York; and "Plans for New Rapid Transit Systems," moderated by Thomas B. Dean of Alan M. Voorhees & Associates. Carlos C. Villarreal, Urban Mass Transportation Administrator, will be the featured speaker at a June 28 luncheon. Workshop breakfasts will again be a feature of the convention, covering such topics as safety improvements, environmental control and ventilation, passenger relations and training.

AMTRAK: Happy birthday?

By JOE ASHER

Remember what Alan Boyd said when Amtrak was new? The Illinois Central president remarked, "Now people are going to find out the railroads were not lying all these years. Passenger trains really *do* lose money."

Well, Boyd was right. Amtrak marked its first anniversary last week, and the deficits are there for everybody to see: An estimated $154.6 million for the first fiscal year of operation, ending June 30. That's around half what the passenger deficit was when the railroads ran the trains themselves. But in the interim, the car fleet was cut 57% from about 3,000 to 1,295, so it's not exactly an improvement in showing.

● **Another deficit ahead.** Amtrak President Roger Lewis says the deficit projection dates from around the turn of the calendar year, and has tracked well ever since. So there is no reason to doubt him when he projects another $124.1-million deficit for the fiscal year coming up. Total: $278.7 million in losses for Amtrak's first two years of operation.

So make no mistake. Railbuffs and other romantics to the contrary, passenger service has not been shown to be capable of profitability. Passenger trains most definitely are *losing* money. And for that reason, skepticism about Amtrak's future and goals still reigns strong in the railroad camp.

There is both a positive and a negative case on this point, and the negative one is the easy one to make. The $40-million lump sum Congress granted Amtrak to get started was used up by last August. Capital payments from the railroads to Amtrak over the full three-year period through June 30, 1973 come to $197 million. On a monthly basis, that's $5.5 million coming in. But Amtrak's own payments back to the railroads for leased cars and terminals, plus a 9% fee for trackage rights and liability insurance, run to $7 million a month, or $1.5 million more.

That's not all. Congress authorized $100 million in federally guaranteed loans, and Amtrak drew down $45 million of it. The banks refused to lend any more, pending settlement of technical language in the statute regarding guaranteed obligations. As a result, Amtrak was forced to suspend certain equipment buying plans and dip into the capital payments to cover operating costs. For the past two months, Amtrak has been in arrears on its monthly payments to the railroads.

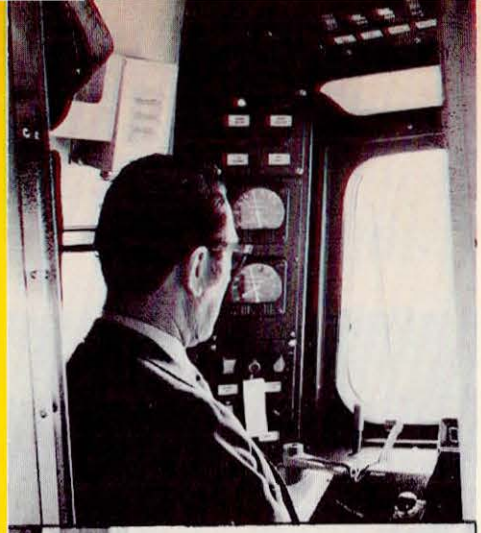
● **Penn Central wants more.** That may only be medium-serious. But in the meantime, Penn Central has been pressing for changes in the payments formula, on the grounds that it carries the bulk of Amtrak's traffic. If PC gets its way, Amtrak would have to cough up as much as $27 million more annually.

There are other troubles: pending labor increases, and congressional supporters who have turned cold. For example, Sen. Lee Metcalf (D-Mont.), a prime Amtrak supporter, read about a dozen letters from complaining travelers into the Congressional Record. They were all to the effect that passenger service ought to have been improved by Amtrak, but it hasn't been.

So it's easy enough for railroad men to lean back, say "We told you so," and write off Amtrak's future.

But maybe it's too easy. Even before considering the case *for* Amtrak, it has to be realized that a considerable body of congressional opinion wants some kind of rail passenger service to continue.

Amtrak requested $170 million in new obligational authority for the coming fiscal year. That's new capital money, not contemplated when the National Railroad Passenger Corp. (Amtrak's official name) was set up one year ago. Not only did the House



ON-TIME record of Metroliners is superior, thanks to modern electronics like advanced cab signaling here. If trains have sexy, space-age image, load factors start moving up again.

CAN'T DO THIS IN A PLANE—call the wife or the office while en route. Electronics married to amenity, as Identra equipment (WABCO) picks out wayside antennae for transmission.

METROLINERS are AMTRAK's showcase service and a whiz-bang success with the public. Suburban stations like Capital Beltway in Maryland draw traffic to high-speed trains—and AMTRAK sees a moral to be applied elsewhere.

approve that request; the Senate went further and raised the capital sum to $270 million, and tacked on authorization of $250 million more in Federally guaranteed loans. Sens. Lowell Weicker (R.-Conn.) and Claiborne Pell (D.-R.I.) in particular fought to raise the ante, saying Amtrak deserves a chance to do something substantial for passengers, and it won't come cheap.

● **Cash coming—but, how much?** A compromise version acceptable to House and Senate and the Administration may well wind up lower. But there is no doubt Amtrak stands to get a considerable transfusion of new cash this year.

On Amtrak's present financial showing, that may mean only a stay of execution for one year. The magic deadline is June 30, 1973, when the railroads end their capital payments and Amtrak gets the right to start abandoning trains, if it so chooses. At that point, Amtrak will most definitely be on its own. Is there any reason to believe it can become viable and stay that way?

Amtrak's Lewis is in no doubt on that point. Yes, he knows all the criticisms on grounds of big losses, poor equipment, inferior service and so on, and he has something to say about each.

"Look," he says. "When I got here, I was only the second male employee on the premises. We didn't get an executive vice president until last February. We had a lot to do, scrambling to keep the railroads running, and make the service decent, and not a lot of time to do it in.

"We're just now getting around to the point where we've got a good balance of people with backgrounds in railroading, aviation, hotels, travel marketing and so on. We got valuable help from consultants setting up a full staff. With limited hardware and without major changes in the configuration of the service as yet, we've had limited successes.

"But they are successes, and they point the way. I can tell you this: No one around here is working with any idea of going over a precipice in 1973. There *will* be a railroad here. I'm personally convinced that rail passenger service is necessary, and that it will become a lot more necessary in the future."

Merely pious words? Says Lewis: "You see the urban-suburban aggregations keep growing. You can't keep funneling all that traffic through the LaGuardia airports of the country, because there just isn't room. The railroads' roadbeds are a tremendously underutilized asset in our total transporta-

Birthday icing

Amtrak had its own way of celebrating its first birthday: announcements of new services and better services.

A ceremony at Union Station in Washington which drew DOT Secretary John Volpe and over 100 congressmen marked the occasion graphically: The newly refurbished "Broadway Limited" was unveiled. Cars had been gutted and furnishings replaced. There were new carpets, lighting, air-conditioning and upholstery.

There was more to the equipment display. United Aircraft's TurboTrain was shown, as well as a four-car Metroliner, newly refurbished (especially seat covers), and two reconditioned diesel locomotives.

In the past three weeks, Amtrak unveiled other new services, upgrading and expansion plans. There's a rent-a-car package for Florida-bound rail passengers. With family or group purchase of three round-trip rail fares between New York or Chicago and Miami, passengers get a week's unlimited free mileage on a rental car. Two half-fares for children equal one full fare, and passengers can pick up and return their rental cars at any of seven Florida cities.

Amtrak's summer schedule, just announced, has other important changes. Two more Metroliners were added between New York and Washington, bringing total round trips to 14 daily, while conventional round trips between the two points were cut from 10 to seven.

Reflecting gains in New York-Boston traffic, overnight conventional Washington-N.Y.-Boston service was restored with the "Night Owl."

A second Chicago-Los Angeles daily train being added is the newly refurbished "Chief." (Eastbound connections will provide the first daily New York-Los Angeles through service since 1958.) Two other western trains, the "City of San Francisco" and the "Coast Starlight," will move up from three-times-a-week to daily frequency.

The "National Limited," now combined with the "Broadway" between New York and Pittsburgh, will run as a separate train between New York and St. Louis-Kansas City.

Southeastern service is being restructured, with the "Silver Meteor" and "Champion" combined, the seasonal "Florida Special" winding up its run, and a third New York - southeast train, the "Carolina Coast," being put on to handle traffic to Virginia, Carolina and Georgia points.

"People will ride trains, if..."

'Don't tell us, we know—equipment bugs.' AMTRAK is refitting its entire car fleet, as here at Hamburg Industries shops.

tion system, and they're a cost-effective way of carrying more traffic."

Very familiar sentiments, we thought. But at this late date, do people *want* to ride trains?

Lewis starts by answering indirectly. "The airlines have figures showing business travel up 50% in the past 10 years, but leisure travel up 70%. So that's a lot of vacationing travelers who are not necessarily in a hurry to get somewhere.

"We think large numbers of people can be persuaded to ride trains, provided it's made attractive to do so. That means giving people clean, modern equipment, courteous service and on-time performance.

"For example, the Metroliners. Of course DOT gets the credit for putting them in, not Amtrak. But look what has happened. The load factor is up around 25%, this year, and we've leased 12 more Budd cars to bring the service up to 14 round trips a day. People will ride trains, if you give them a reason to."

● **Metroliners a hit.** Indeed, Lewis is right about the Metroliners. They are shaping up as THE success story on Amtrak—even if they were taken over from DOT, which underwrote the project. Last January, the service went into its fourth year of operation, having jumped from 605,000 passengers the first year to 1.6 million last year. Service began with just one trip daily, and was plagued with breakdowns. These days, on-time performance is the norm, and operation has taken on the characteristic of a shuttle—every hour on the hour service through most of the day. Most interesting of all, perhaps, is that it's turning in an operating profit—$41.5 million over the period since its inauguration.

Losers into winners?

The Metroliner, of course, is an exception—brand-new, high speed equipment in a heavily traveled corridor. What holds true here may not hold true elsewhere, and indeed Amtrak's figures to Congress last month showed heavy losses—as you'd expect—on just about every long-distance train. Especially big losses were racked up on runs like the Santa Fe "Texas Chief" and the Chicago-Florida "Floridian."

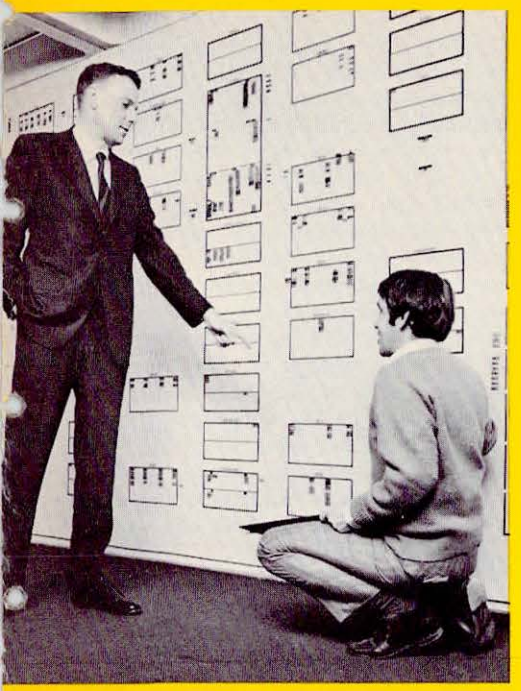
But Lewis emphasizes that even without the built-in advantages the Metroliner has, there is a lot more that can and will be done to boost passenger service. For example, he says, "Between New York and Boston, running conventional trains, we tried cutting the coach fare 22% to $9.90. Traffic went up 40%. Which suggests that there is a large potential market that is very sensitive to price."

So Lewis is experimenting. There are the Fun Trains from West Coast cities to the casinos of Reno and Las Vegas—jammed with holiday-seekers. He's promoted travel agency discounts, credit card purchases of rail tickets, tie-in packages with the nationwide buslines, valet parking services at certain terminals, rescheduling to make better connections, and now rental-car packages for Florida-bound vacationers. (See box.)

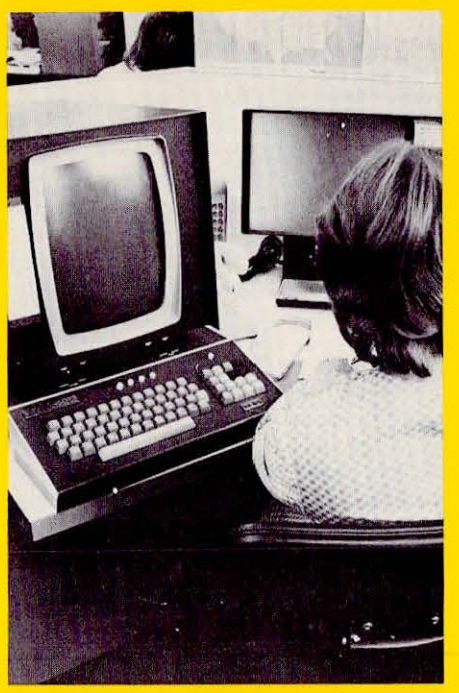
This is only the beginning, promises Lewis: "We've been criticized in some quarters for not doing more advertising and promotion earlier. Frankly, we didn't have the right product to sell.

"The product is improving, but it takes time. We need new equipment. Before that, we've got to spruce up the equipment we have. In the meantime we've concentrated on cleanliness, courtesy and communications—meaning correct information to the public about the service.

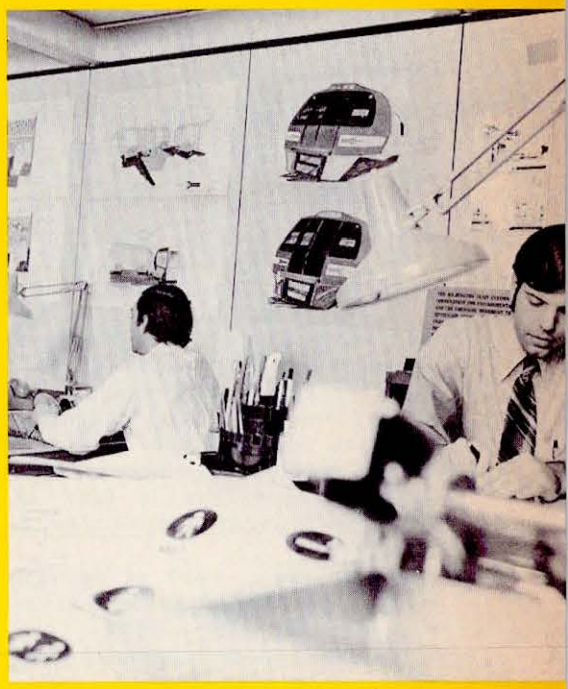
"Our on-time average is about 80%. Compare that with the airlines' 60-70%.



Who's on first? The car location chart tells Amtrak operations men right away.



Not Hilton but AMTRAK—the Chicago reservation center keeps tabs on space.



Draw me—the design section works on interior graphics, station modules.

We're supposed to have been quarrelling with the railroads, supposedly because they delay our passenger trains to move their freight trains through. It would be naive to say that our relations have been perfectly friendly at all times, but we get along. We deal with them on a railroad by railroad, situation by situation basis. Certain railroads needed to pull their socks up, and they did. It was no quarrel.

"And railroad stations—those godawful sepulchres in the center cities. We could save between $20 million and $50 million a year by getting out of them and moving to suburban locations where the market is. As it is, we've consolidated Chicago passenger operations in one terminal, and Houston in two.

"You know how it is when you fly. You drive to the airport from where you live in the suburbs, park your car and get on the plane. There's no reason why you shouldn't be able to park your car and get on a train.

"Our experiences with the Metroliners stopping at Capital Beltway outside Washington and Metropark in New Jersey seem to be confirming this, and I'm absolutely certain that is the way to go. So we're working on plans for more suburban stations with parking lots. We're looking at designs for station modules that would fit different locations, and be relatively inexpensive to build and operate. And of course the rents would be nothing like the high rents downtown."

● **Capital spending.** That still leaves the very vexed question of equipment. Lewis makes much of his $147 million capital improvement program, which depends on the new cash outlays still in the hands of Congress. If he gets it, one third, he says, will go for outright purchase of the cars he now has under lease. "As long we're paying to lease them," he says, "it's a cash cost. Switch the bookkeeping, and it isn't any longer."

For every car, a new look

The remaining sums, he says, would be divided 50% for new motive power, 40% for new passenger cars, with the balance for new stations and for R&D. At the present time, he says, no decisions have been made about hardware or types of power pack.

In the meantime, every car, repeat, every car, in the Amtrak fleet is undergoing or will undergo shopping. The first 83 came out since November. Another 190 are in various shops right now. The balance are scheduled to visit carshops all over the country in the next year and a half. And it should be noted that these cars get a new paint job, new carpeting, upholstery and interior furnishings, as well as mechanical overhaul.

So the Lewis recipe is one part cost-cutting, one part promotion aimed at building volume. Is it viable? Remember that magic date in 1973, and consider what Lewis says:

"We want to be able to present Congress with a set of options. If we're picking out just the sure money-makers, we're talking about the Metroliners. But we need to identify those operations which with better equipment, marketing and promotion have a chance to succeed in a few years, and the ones that will never succeed. Then it's up to Congress.

"You know, the British have an interesting practice. The money-losing trains they have to keep subsidizing for social reasons become a separate line item in their budget. They're identified there for all to see, and they don't reflect back on the rest of the operation."

Is Lewis trying to tell us something—the future of Amtrak, maybe? ■

Grade crossings: The safety record improves

By ROBERT W. MCKNIGHT
System Controls Editor

For the fifth straight year, deaths from railroad/highway grade-crossing accidents declined in 1971. The 1,366 persons killed in train/motor-vehicle collisions was the lowest number since 1963. This followed a 5.3% drop in fatalities in the year-earlier period.

Says John W. Ingram, Federal Railroad Administrator: "It would be too optimistic to call a two-year decline a trend, but it is a good sign that there are other forces than chance at work. I think the railroads ought to be commended. We hope that when the Federal Railroad Safety Act is fully implemented, a further reduction can be achieved."

● **Hopeful signs.** Some of the signs pointing towards continued improvement in crossing safety include:

—A more systematic approach to the grade-crossing safety problem. Various governmental agencies—Federal, state and local—are working with railroads and manufacturers of crossing-protection equipment, signs and markers to provide better products to improve safety.

—Improved and more extensive driver education in all areas, public as well as private schools, and in some cases beginning at the pre-teenage level.

—More funding from governmental agencies particularly at Federal and state levels. Some states now provide funds for maintaining grade-crossing protection equipment.

—Improved crossing-protection equipment to provide more reliable operation. In the cases of various-speed trains, controls can provide uniform protection for the motorist.

—Improved signs and markings of highways, including the provision of longer sight distances for viewing the approach of trains from the highway.

—Improvements in motor vehicles, making them respond more quickly to drivers' actions.

All these factors portend greater safety with fewer deaths and injuries at railroad/highway grade crossings, in spite of the steep rise in motor-vehicle registrations in the United States. Total vehicle registrations—automobiles, trucks, buses, both private and governmental—have more than doubled since 1951, to an estimated 112.7 million by the end of 1971. During this 21-year period, the number of crossings actively protected by flashing-light signals, with or without automatic gates, has also more than doubled, from 19,474 to 48,003—according to annual surveys of railroads by Railway Age.

During this 21-year span, the number of accidents at grade crossings has remained comparatively level in the 3,000-to-4,000 range. Casualties (killed and injured) have fluctuated in the 4,000-to-5,000 range. This almost static situation in crossing accidents and casualties would seem to indicate that the factors listed above have been effective in improving safety in the face of a doubling of motor vehicle registrations.

● **Why interest now?** The Department of Transportation was directed by the Federal Railroad Safety Act of 1970 to make "a comprehensive study of the problem of eliminating and protecting railroad grade crossings, including a study of measures to protect pedestrians in densely-populated areas along railroad rights-of-way, together with recommendations for appropriate action including, if relevant, a recommendation for equitable allocation of the economic costs of any program proposed as a result of such study."

Part I of this study—"A Comprehensive Statement of the Problem"—was submitted to Congress last November. This is to be followed in July 1972 by Part II, which will be an analysis of the grade-crossing problem and subsequent program recommendations. Part I was prepared by the staffs of the Federal Railroad Administration and the Federal Highway Administration.

● **How many crossings?** The DOT study reports that "of the 232,000 crossings inventoried, 155,000 are in rural areas and 77,000 in urban areas. As to highway classification, 47,000 are part of the Federal-aid highway system and 185,000 are off the system." About 45% of the Federal-aid highway crossings are protected by flashing-light signals, with or without gates, or some similar active protection including wigwags and/or bells.

As might be expected, volumes of motor vehicles and trains are key factors in crossing safety. The DOT study revealed that more than 70,000 crossings have no more than two trains per day and fewer than 500 motor vehicles per day. Some 4,000 crossings have 10 or more trains and 5,000 or more motor vehicles per day.

Several states use these train and motor-vehicle volumes to determine whether a rail/highway crossing should be provided with automatic protection. Known as exposure level, this figure is obtained by multiplying the number of motor vehicles per day traveling over a crossing by the number of trains per day moving over the same crossing. A basic minimum for one state to upgrade protection from a crossbuck sign to at least flashing-light signals is 3,000 vehicles per day and at least two trains per day over the same crossing. For single-track crossings in rural areas, an exposure level of 25,000 is considered sufficient to justify automatic protection. For urban areas in single-track territory, the exposure level is 50,000. For multiple-track territories, the rural exposure level is 15,000 and urban exposure level is 30,000.

● **Safety is economical.** Although the DOT report does not make recommendations based upon its economic studies, it does state "the results indicate that if 15,000 crossings were provided with improved protection, accident costs would be reduced nearly three times that of the installation and maintenance cost of the improvement. The analysis also indicates that there would be a greater relative benefit in urban areas than in rural areas.

"On an individual basis, it appears that 500 to 1,000 crossings might economically warrant grade separation, primarily on the basis of reduced motor-vehicle operating and delay costs. However, most grade separations will probably continue to be constructed as part of a systems approach. In addition to highway-system improvements, these include high-speed rail lines and urban rail-system improvements."

The systems approach takes into account such factors as congestion of street traffic, ecology (trains moving slowly through centers of population with standing motor vehicles emitting noxious gases), slowly-moving trains causing congestion near yards, and esthetics as well as safety. For the latter, the best solution is not to allow train and motor vehicle to meet at grade. Present estimates are that $100 million to $150 million in Federal funds are spent on grade separations, including those to eliminate potential crossings on the Interstate Highway system. State and local funds come to about $110 million annually. Railroads provide $10 million yearly. In all, these funds provide about 400 grade separations and automatic protection equipment at ap-

As crossing protection increases, casualties drop

Year	No. of Motor Vehicles Registered in the U.S.*	No. of Crossings Actively Protected at Year End**	No. of Accidents†	No. of Casualties†
1951	51,913,965	19,474	3,995	5,913
1952	53,265,406	20,909	3,592	5,311
1953	56,221,089	22,400	3,675	5,309
1954	58,510,253	23,891	3,336	4,729
1955	62,693,819	24,961	3,846	5,460
1956	65,153,810	26,281	3,639	5,093
1957	67,131,071	27,911	3,569	5,138
1958	68,299,408	29,541	3,099	4,432
1959	71,497,399	30,921	3,075	4,450
1960	73,768,565	32,320	3,195	4,788
1961	75,846,532	33,797	3,204	4,805
1962	79,022,916	35,350	3,149	4,433
1963	82,692,314	36,500	3,373	4,826
1964	86,297,133	37,705	3,755	5,326
1965	90,356,748	38,936	3,820	5,335
1966	94,176,799	40,156	4,097	5,823
1967	96,989,132	41,873	3,932	5,444
1968	101,048,450	43,384	3,816	5,320
1969	105,403,557	44,801	3,774	5,159
1970	109,505,907 est.	46,383	3,559	4,776
1971	112,717,485 est.	48,003	3,470 est.	4,717

* Motor vehicle registration data from **Wards Automotive Red Book**, 1970.

** Crossings actively protected by flashing-light signals and/or flashing-light signals with automatic gates; from data supplied annually to **Railway Age** by U.S. railroads.

† Number of accidents and number of casualties (killed and injured) from U.S. Department of Transportation, Report to Congress, Nov. 1971 on **Railroad-Highway Safety: Part I.**

proximately 1,300 crossings annually.

● **Costs continue.** Initial costs of providing automatic protection at a railroad/highway grade crossing or a grade separation are just one part of the total cost of the crossing problem. A lower, but continuing cost until the crossing is eliminated or the separation removed (railroad or highway relocated) is that of maintenance.

The initial costs of installation of automatic protective devices range from $15,000 for installing flashing-light signals at a single-track location to approximately $25,000 for installing automatic gates at a multiple-track crossing. Installation costs increase if speed-measuring controls are provided to distinguish between trains of varying speeds so as to provide safe, uniform protection with a minimum delay to motor vehicles. Annual maintenance costs range from $750 to $1,250 per crossing. Grade-separation costs range from an average of $320,000 for low-volume rural roads to $930,000 for high-volume urban street separations.

Around 1935, Federal and state funds were set aside to improve protection at grade crossings and construct grade separations. Federally-funded programs were active in 1935-1941, and then resumed in 1946. Financial responsibility for safety at grade crossings on the part of the public has been recognized by the U.S. Supreme Court since 1935. It was reaffirmed by the Interstate Commerce Commission in 1964 when it reported that "the principal cause of grade-crossing accidents is failure of motor carrier operators to stop or exercise due care and caution or to observe and comply with existing safety laws and regulations. . .Now it is the highway, not the railroad, and the motor vehicle, not the train, which creates the hazard and must be primarily responsible for its removal.

States now have the choice of using Federal funds for crossing protection or crossing improvements, such as grade separations. They may use up to 10% of their Federal-aid funds for highways designated as part of the Federal-aid system. Unfortunately, most states favor spending the money for concrete, rather than safety devices or separations, unless it's a major highway in which case a separation usually wins. For example, just last fall, DOT Secretary John Volpe released $700 million in highway trust funds for safety and to increase employment, with safety given a high priority. However, only $15 million was used for grade-crossing projects.

● **STA to the rescue.** The Surface Transportation Act now being debated in the Congress (S. 2362 and H.R.

11207) would provide a much-needed boost to grade-crossing safety. STA would require that 5% of all Federal Highway Trust Fund allocations to the states be used on grade-crossing projects. The funds would be available for use on any road where conditions warrant their expenditures rather than on Federal-aid roads only. This 5% could represent $250 million annually.

Enactment of the STA would go far to alleviate the grade-crossing safety problem, according to Max R. Sproles, executive director for highway/rail programs, AAR. Enactment of STA, Sproles says, would not require Congress to appropriate new funds. Also, he notes, "Substantial improvements have been made to the crossings on the Federal-aid system. The time has come to provide Federal assistance to the states and municipalities which are so hard-pressed for funds to enable improvements to be made at all crossings with a high probability of accidents, no matter who has the responsibility for construction and maintenance of the roadway."

In testimony before the House Public Works Subcommittee on Roads, Sproles stated: "Annual expenditures have actually decreased during the last five years, dropping from $186 million in fiscal 1965 to $120 million in fiscal year 1970. . .On Federal-aid projects in 1965, Federal funds were used to aid in improving protection at 317 crossings; in 1970, only 187 were improved. The number of additional crossings eliminated through complete grade separation dropped from 421 to 242 in the same period.

"The states and local governments do, of course, spend additional funds on grade crossings. But even with these expenditures—and the additional [$53.5 million] spent by railroads annually—only about 1,300 crossings are improved each year, or 1/2 of 1% of the total," Sproles testified.

● **Technology cuts costs.** One of the basic facts of life about grade-crossing protection equipment is that it costs as much to install the equipment as it does to buy it. Total installation costs for crossing signals with or without gates are almost evenly divided—50% labor, 50% equipment and materials. Thus, if technology cuts materials or equipment costs 50%, then total cost will come down 25%. On some installations this would only amount to $3,500. However, steps are being taken to overcome this equipment-cost problem. Under FRA auspices, a study, report and demonstration project is under way by the Transportation Systems Center. A microwave telemetry system has been developed for actuating warning signals at a rail/highway grade crossing. Two test systems are to be installed at actual crossing installations. Approach of trains, about half a mile from the crossing, will be indicated by wheel sensors. The output signal from the sensor will be transmitted by microwave to the crossing, where equipment will record the electrical signal. Plans are to operate the telemetry control system in parallel with the flashing-light signals at the crossing and obtain a recording of both systems' operation.

Another innovation under study at TSC is train detection by radar. The radar unit could be mounted on a mast at the crossing over the rails and aimed to look toward approaching trains. Use of radar presents an interesting aspect to the problem of actuating warning signals at crossings. By using radar, control of the crossing signals is removed from the railroad, that is, track circuits are not required. *If*, and it's a big one, such a radar system could be proved fail-safe, practical and economical, then crossing signals could be installed and maintained by city traffic departments that now install and maintain street traffic signals. This would also lead to the practicability of having those in charge of streets and highways pay for the total cost of installing and maintaining crossing protection devices.

Admittedly, this won't happen tomorrow, but some people are beginning to see the advantages. It would relieve railroads of the crossing protection cost problem, maintenance and installation. It certainly should lessen the responsibility of the railroad for safety at crossings, because the protection equipment would be that of the public body, state, Federal, county or local.

● **Progress is slow.** For the immediate future, crossing protection will continue to be a joint venture with railroads and various levels of government participating. As for funding, there is considerable pressure, often from the public, for more governmental participation in crossing protection.

Another reason for increased Federal funding is the realization of the relatively small size of the market. It's only a $12-million annual market for crossing protection equipment, shared by eight manufacturers (see box). Up to now, almost all research and development has had to be carried out by these manufacturers with their own money. The share each obtains in the market, or could obtain, necessarily limits his R&D effort.

Newer, more efficient track-circuit equipment, such as overlay types which do not interfere with welded-rail-laying or existing signal systems, is gaining favor and is almost exclusively used for crossing-protection projects. Several railroads have standardized on the use of overlay circuits for grade-crossing protection. Also of recent development are special reflectorized lamps which provide more light from a flashing-light signal to the approaching motorist. Modular equipment units, package concepts with factory-wired cases and housings, have also provided for ease of installation and maintenance and reduced costs.

● **DOT sums it up.** The DOT report to Congress concludes: "The difficult questions of financial responsibility, divided jurisdiction, high cost of improvements, legal liability, and limited sources of funding have had a major impact on the ability to achieve new breakthroughs in solving the grade-crossing problem. Safety has always been the major public issue.

"However, with the tremendous growth in motor vehicle miles, serious congestion on urban streets, and increasing interest in high-speed rail service as an alternative mode in transportation planning, improved highway and railway mobility has assumed new importance. Effective resolution of the grade-crossing problem should consider both increased safety and more efficient use of highway and railroad systems." ■

Eight manufacturers share crossing-protection market:

Erico Products, Inc.—Track circuit controls.

General Railway Signal Co.—Complete crossing protection, including track circuit controls, flashing-light signals with or without automatic gates.

Harmon Electronics, Inc.—Crossing protection equipment, including track circuit controls and flashing-light signals.

Safetran Systems Corp.—Complete crossing protection including track circuit controls, flashing-light signals with or without automatic gates.

Servo Corp. of America—Track circuit controls.

Transcontrol Corp.—Track circuit controls.

Western-Cullen Division, Federal Sign & Signal Corp.—Complete crossing protection, including track circuit controls, flashing-light signals with or without automatic gates.

Westinghouse Air Brake Co., Signal & Communications Division—Complete crossing protection including track circuit controls, flashing-light signals with or without automatic gates.

New tie inserter demonstrated on the Rock Island

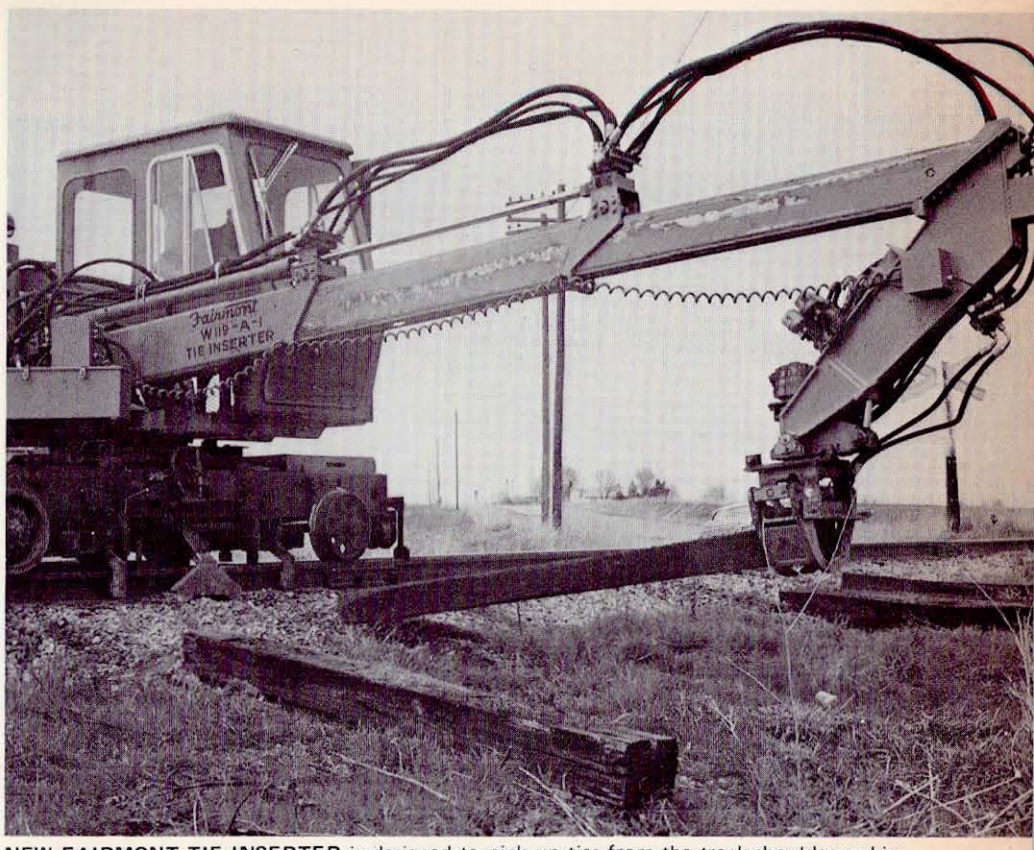
As tie renewals go up, railroads keep looking for types of tie-renewal machines that will boost the production of their tie gangs—and manufacturers keep bringing out new offerings in this category.

The latest such machine is the Fairmont W119-A Tie Inserter. The unit is designed to pick up ties from the track shoulder and insert them in the final position in the track without the need for any manual help other than that of the operator. What the manufacturer refers to as a pre-production model of the new tie inserter was recently operating in a tie-renewal gang on the Rock Island, which was working at Marion, Kan. The machine was being demonstrated under service conditions so that the manufacturer could determine if any final changes or modification would be necessary before the unit is cleared for production.

The railroad had elected to insert the new tie inserter into the consist of its tie-renewal gang No. 1, the largest on the railroad. Machinery used by this gang normally consists of two Fairmont Spike Pullers, two Fairmont Tie Shears, four RTW Tie Handlers, three Kershaw Tiebed Scarifier-Inserters, an Electromatic Junior tamper, a Fairmont Rail Lifter, and two RMC Auto-Spikers.

• **Operation of gang.** When tie-renewal gang No. 1 reaches the site where it is to work, two Tie Handlers go ahead to line up the previously distributed ties opposite the points where they are to be inserted. These machines are followed by the two spike pullers, removing spikes from the ties to come out. Next come the two Tie Shears, cutting each failed tie into three pieces and pushing the end pieces out of the track. Next, the other two Tie Handlers remove the tie chunks. These are followed by the three Tiebed Scarifier-Inserters, each working both as a tiebed scarifier and as a tie inserter. Next, the new ties are tamped by the Electromatic Junior tamper. After the tie plates have been inserted on the new ties with the aid of the Rail Lifter, the spikes are set and driven by the two Auto-Spikers.

Aside from supervisory personnel, Gang No. 1 consists of 14 machine operators, three differentially-rated laborers operating the smaller machines and 28 laborers. Also accompanying the gang are two work equipment supervisors (mechanics), each with a utility truck stocked with tools and spare parts. Their responsibility is to keep the machines running.



NEW FAIRMONT TIE INSERTER is designed to pick up ties from the track shoulder and insert them in the track with manual help only from the operator.

In the territory where Gang No. 1 was operating, tie renewals were averaging about 1,000 per mile. Working under traffic in this single-track territory, the gang was averaging about 1,000 ties a day. Production on any particular day depended on traffic interruptions. The gang has inserted as many as 2,000 ties in a single day, said a Rock Island spokesman.

• **New inserter goes to work.** The Fairmont Tie Inserter was introduced into the gang on March 27. After a trial period, the place selected for the Inserter was between the second and third Scarifier-Inserters. With the new machine in this position, the two lead Scarifier-Inserters functioned only as tiebed scarifiers. The Scarifier-Inserter behind the Fairmont W119 Inserter functioned as an inserter.

The three-section telescoping boom of the Tie Inserter has a reach of 14 feet from the track center line and a lifting capacity of 1,000 pounds at that distance. An outer boom end, placed at an angle with the main part of the boom, carries the tie clamp at its lower end. The tie clamp is rotatable so that a tie, when grasped at one end, can be quickly swung through an angle of 180 degrees, if that is necessary to get it into the proper position for insertion. Positive stops assure that, at the end of the rotating motion, the tie will be at an angle of 90 degrees with the track. A 9-foot tie can be fully inserted into the track with a single motion if it is grasped anywhere within 18 inches of the end.

• **Guiding the tie.** When a tie has been picked up and is poised for insertion, the operator causes features to be brought into action that play a part in guiding the tie into the proper position. Important among these features is a tie guide outside the rail, a tie chute between the rails and a tie stop outside the tracks on the opposite side. The tie chute and tie guide are adjustable according to the height of the rail so that the end of the tie enters the chute with its top surface exactly at the base-of-rail level.

With the tie in position to be inserted, the boom is automatically leveled in relation to the track. Simultaneously, a hydraulic actuator on the outer boom end causes an upward force to be exerted on the tie end entering the tie chute. The combination of these functions assures that each tie will be inserted tight to both rails. The tie chute between the rails consists simply of four steel rods, two forming the top and one forming each side. Therefore,

This announcement appears as a matter of record only.

New Issue

INDUSTRIAL LEASING CORPORATION

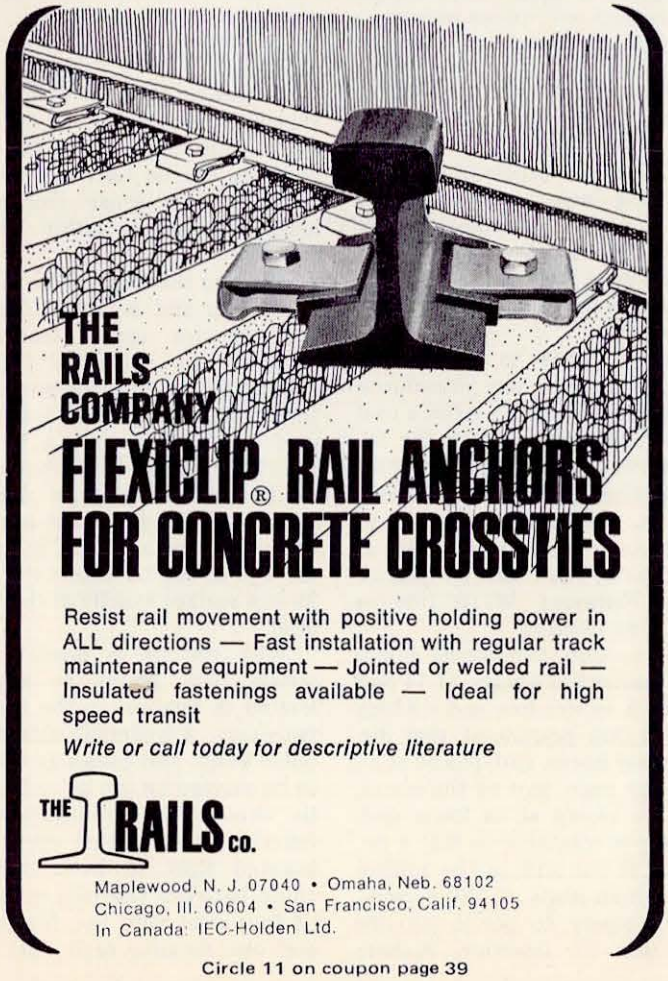
$1,250,000

Equipment Lease Conditional Sale Agreement
dated March 15, 1972

This financing based on a lease with
Detroit, Toledo and Ironton Railroad Company
was placed privately by the undersigned.

ROOSEVELT & SON®
INCORPORATED
MEMBERS NEW YORK STOCK EXCHANGE, INC.
MEMBERS MIDWEST STOCK EXCHANGE, INC.

ROOSEVELT & SON—THE OLDEST NAME IN INVESTMENT BANKING—EST. 1797
72 Wall Street • New York, N.Y. 10005/(212) 944-0440
ATLANTA • BOSTON • CHICAGO • DALLAS • SAN FRANCISCO



FLEXICLIP® RAIL ANCHORS
FOR CONCRETE CROSSTIES

Resist rail movement with positive holding power in ALL directions — Fast installation with regular track maintenance equipment — Jointed or welded rail — Insulated fastenings available — Ideal for high speed transit

Write or call today for descriptive literature

THE RAILS CO.

Maplewood, N. J. 07040 • Omaha, Neb. 68102
Chicago, Ill. 60604 • San Francisco, Calif. 94105
In Canada: IEC-Holden Ltd.

Circle 11 on coupon page 39

the final position of the tie, square and tight to the rails, is machine-controlled with little operator effort.

• **Automatic features.** When the clamp is holding a tie in position for insertion, the operator actuates a button with his left hand. All lower functions—tie guide, tie chute, tie stop, rail hooks and thrust plates—lower and lock into position. The inward movement of the boom is initiated with the right hand. As the end of the tie enters the outer tie guide, the heel of the right hand depresses a button causing the automatic features of the operation to go into action. These include automatic leveling of the boom and movement of the hydraulic actuator which causes the end of the tie to exert upward force.

Other features in action at the time a tie is being inserted include thrust plates that cause the thrust exerted during the inward movement of the ties (8,850 pound maximum) to be exerted through the plates bearing against the gauge side of the near rail. Purpose is to relieve the wheel flanges of this load. Rail hooks that lock the machine in position during insertion of a tie are another feature.

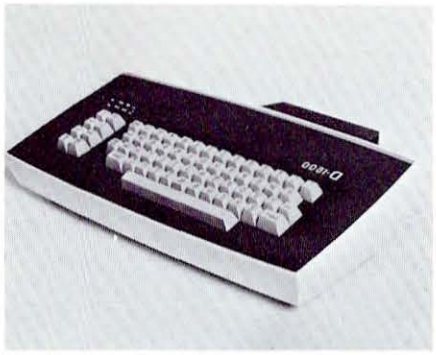
When the lower functions—tie guide, tie chute, tie stop, rail hooks, and thrust plates—are in position for receiving a tie, a green light on the operator's console goes out. While this light is out, the propulsion feature of the machine cannot be initiated. This can be done only when the lower functions have returned to the raised position, at which time the green light comes on. The operator then moves the machine forward in position to insert the next tie.

• **Experience on Rock Island.** Rock Island officers who have observed the Tie Inserter in operation report that the unit can maintain a production rate of between three and four ties per minute. M.E. Garcia, general roadmaster, reported that, with the Tie Inserter in the consist and given six hours of on-track time, the gang can insert 1,200 ties per day. "When the gang gets stretched out it can put in 300 ties in an hour," he adds.

Kenneth A. Edwards, assistant manager M/W work equipment, speculated on possible changes in the line-up if the Tie Inserter were included on a regular basis. His reasoning was based on the use of the new machine and two Scarifier-Inserters, with the third Scarifier-Inserter being made available to beef up the production of another gang.

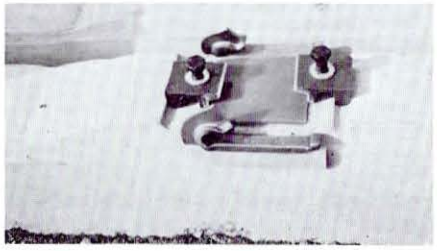
Edwards' reasoning was further based on the assumption that the Tie Inserter and the two remaining Scarifier-Inserters would be able to keep up with the two Tie Shears which are considered the pace setters of Gang No. 1. In that case, the force putting in ties would consist of three operators and two laborers. This would represent a saving of four laborers, compared with the present organization. ■

New Products Report



New message device used in rail rapid transit terminal

A low-cost, compact electronic character generator is said to be an extremely simple device to install in existing television systems. Message boards for commuter trains at New York's World Trade Center use the device to transmit information and special news bulletins. The Trade Center system consists of large boards displaying 4-inch-high alphanumeric characters. Each board can accommodate three lines of display with 32 characters a line. Each letter and numeral appearing on the board is formed by two opaque flaps divided horizontally. For each position on the board, there are 40 silk-screened flap panels, each of which is rotated in response to the electronic signals generated by the keyboard of the character generator. It is said this is the first time such an information display system has been used in a rail rapid transit terminal. *Datavision.* (RA-1)

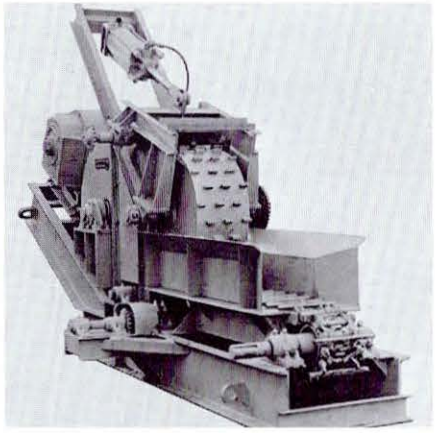


Fastener resists longitudinal forces on concrete ties

The rail-anchor-type of rail fastener for the Dow-Mac concrete ties involves a new principle for fastening the rail to prestressed-concrete ties. The longitudinal forces in the rail are resisted by Fair rail anchors bearing on the sides of the concrete tie with the rail free to move up and down independently of the tie. Two gauge blocks, held in place by bolts threaded into stainless-steel inserts cast in the tie, resist the lateral forces in the rail but permit the rail to move vertically a limited amount. *Railway Products Division, Portec, Inc.* (RA-2)

Commuter shelter is almost maintenance free

Lightweight Alcoa aluminum extrusions and heavy-duty acrylic plastic panels are used to form a shelter that protects commuters from sun, wind, rain and snow. The shelter, virtually maintenance free, is typically 12 feet long, six feet wide and eight feet high. It is part of the manufacturer's Alpha/8000 series, a modular group which permits a variety of design options. Among the options are side windows, bench seating and a front enclosure with entrance and exit. *Columbia Equipment Co.* (RA-3)



Chipping machine automatically ejects all non-wood materials

A specially engineered chipper, with a year's testing and development, has been designed to reduce to chips all

FOR FAST INFORMATION ON 1 to 3 ITEMS ONLY USE THIS

EXPRESS CHECK-OUT CARD

PLACE NUMBER OF ITEM IN CIRCLE

◯ ◯ ◯

AND AIRMAIL DIRECT TO PUBLISHER TODAY

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

TELEPHONE _____ 5/8/72

350 Broadway, N.Y., N.Y. 10013 READERS' SERVICE (Att. J. Meyer)

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS IN ADVERTISEMENTS NUMBERED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGES 39-40 MARKED: RA-1 RA-2 RA-3 RA-4 RA-5 RA-6 NL-1 NL-2 NL-3 NL-4 NL-5 NL-6 NL-7 NL-8

LIMIT: FIVE NUMBERS

☐ PLEASE SEND INFORMATION ABOUT SPECIAL RAILWAY AGE SUBSCRIPTION PLAN FOR YOUR EMPLOYEES AND CUSTOMERS.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Inquiries can be processed only if title and company are shown. 5/8/72

forms of brush and wood, including railroad ties and large logs. An unusual feature of the machine is the pivoting chipper anvils that eject bricks, rocks and masonry material that might cause damage. The machine, called Ecolo-Chipper, is designed to be fed by a chain bed of the same width as the machine spout. Large-diameter spiked rolls compress the material ahead of the spout. The machines are designed for capacities of 25 to 225 tons of material an hour. Ecolo-Chipper is available in several sizes and production capacities. It can be mounted for either portable or stationary operation. *Nicholson Manufacturing Co.* (RA-4)

Ballast equalizer increases efficiency of operator

A fully enclosed, pressurized cab, with optional all-weather climate control is one of the new features of the latest version of the Tamper Ballast Equalizer. The new cab is designed to provide optimum operator comfort and efficiency utilizing air/hydraulic controls and wide-range visibility. The controls for all attachments are toggle-switch type, electric-hydraulic for ease of operation. And, points out the manufacturer, all safety devices can be quickly applied from inside the cab. The track-broom assembly sweeps ballast or snow and can be fitted easily with a Tamper SC-3 Switch and Yard Cleaning Snow Blower as an option and utilizes trainline air hose for the sweeping element. *Tamper.* (RA-5)

Dual driving heads featured on spike driver

A new spike driver has been developed for rail-gang use. It is Fairmont's W116-A Dual Spike Driver which has dual driving heads. Both driving assemblies are operated by a single control lever, driving one spike on each side of the rail simultaneously. Driving assemblies can be adjusted manually to match the spiking pattern and height of rail. The unit is self-propelled, both forward and reverse, so it can be worked in either direction. It features safe, one-man operation, driving two spikes in 12 to 14 ties per minute, it is claimed. *Fairmont Railway Motors, Inc.* (RA-6)

NEW LITERATURE

MASS TRANSIT PROPULSION. Westinghouse Air Brake Co. has published an 8-page brochure describing the WABCO-developed pulse width modulation demonstration on the Cleveland Rapid Transit system. The brochure, "A New Era in Urban Transportation," explains how the propulsion system provides reduced maintenance and power costs and a more comfortable ride. (NL-1)

LIFT TRUCK SAFETY. A 28-page booklet discussing the Occupational Safety and Health Act as it relates to operation of industrial lift trucks has been prepared by the Hyster Co. It is designed to answer questions arising from the establishment and enforcement of the Act's standards. (NL-2)

ELECTRONICS MAINTENANCE. A line of aerosol products for electronics, computers and communications cleaning and maintenance work is listed in a catalog from Miller-Stephenson Chemical Co. Photographs and descriptions of the various uses of the products are included. (NL-3)

MINICOMPUTERS. "How to buy a minicomputer" is the title of a Data General Corp. brochure designed to aid prospective purchasers. (NL-4)

EARTH RESISTANCE TESTING. A pocket-size booklet from Associated Research Inc. describes lightweight, battery-powered Vibroground instruments designed for determining the earth resistance of man-made or driven ground rods. (NL-5)

RAPID TRANSIT SPEED CONTROL. Westinghouse Electric Corp. has issued a 4-page bulletin about the firm's d-c chopper control (DCC) for rapid transit cars. The DCC controls the vehicle's accelerating and electrical braking systems. (NL-6)

CADMIUM BATTERIES. An expanded catalog from NIFE Inc. covers the company's line of high-rate pocket plate nickel cadmium storage batteries. (NL-7)

CARGO ROLLERS. A new folder illustrating the scope of its cargo rollers and conveyor roll bearings has been published by General Bearing Co. (NL-8)

PLACE AIRMAIL STAMP HERE

RAILWAY AGE
350 Broadway
New York, N.Y. 10013

ATTENTION:
R.G. LEWIS, PUBLISHER

AIR MAIL

BUSINESS REPLY MAIL
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY

RAILWAY AGE
350 Broadway
New York, N.Y. 10013

ATTENTION:
J. MEYER

FIRST CLASS
PERMIT NO. 153
NEW YORK, N.Y.

Fourth Quarter and Twelve Months' Figures of Calendar Year 1971

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total 1971	Total (inc. misc.) 1970	Operating Expenses: Maint. Way and Structures: Total 1971	Total 1970	Deprec. and Retirements	Maint. Equipment: Total 1971	Total 1970	Deprec. and Retirements	Traffic	Transportation	Total 1971	Total 1970	Operating ratio 1971	Operating ratio 1970	Net from railway operation	Railway tax accruals	Net Railway operating income 1971	Net Railway operating income 1970
Akron, Canton &	3 mos.	171	1,606	–	1,668	1,707	263	350	31	324	396	126	90	748	1,554	1,677	93.2	98.3	113	228	184	431
Youngstown	12 mos.	171	6,937	–	7,220	7,387	1,422	1,340	97	1,586	1,391	506	368	2,997	6,866	6,425	95.1	87.0	355	899	392	902
Ann Arbor	3 mos.	299	2,853	–	2,951	2,658	362	313	22	469	418	120	64	1,510	2,498	2,196	84.7	82.6	452	202	–44	–5
	12 mos.	299	10,362	–	10,860	10,075	1,647	1,032	87	2,009	1,795	492	227	5,706	9,990	8,569	92.0	85.0	870	810	–921	–178
Atchison, Topeka &	3 mos.	12,836	185,217	–5	195,408	201,421	29,136	25,266	4,012	40,535	38,335	10,839	4,814	69,364	153,579	147,313	78.6	73.1	41,830	13,584	24,632	22,710
Santa Fe	12 mos.	12,886	733,509	4,743	779,366	753,318	118,477	111,884	12,075	155,951	150,575	43,856	18,557	276,975	606,522	602,512	77.8	80.0	172,844	69,052	85,122	53,651
Baltimore & Ohio	3 mos.	5,543	104,638	166	108,862	118,301	15,766	16,295	1,845	16,342	19,068	2,813	2,874	43,615	85,609	92,738	78.6	78.4	23,253	6,940	4,260	3,067
	12 mos.	5,550	474,228	1,101	495,812	479,190	64,966	60,596	6,396	79,843	77,594	11,335	12,314	186,664	375,212	368,564	75.7	76.9	120,599	34,167	29,097	18,862
Bangor &	3 mos.	543	3,074	58	3,208	2,819	850	945	79	1,165	1,240	436	80	975	3,371	3,444	105.1	122.2	–162	280	1,255	133
Aroostook	12 mos.	543	12,164	261	12,730	13,022	3,445	3,698	279	4,377	4,870	1,748	314	4,086	13,163	14,335	103.4	110.1	–432	1,180	2,973	654
Bessemer &	3 mos.	221	8,188	–	9,141	12,476	1,417	1,329	143	1,564	1,742	–57	178	2,573	6,533	7,601	71.5	60.9	2,607	3,829	–1,213	2,671
Lake Erie	12 mos.	221	44,522	–	48,577	43,951	5,415	5,118	561	8,504	6,715	1,323	686	11,963	30,374	27,204	62.5	66.4	18,203	11,328	6,266	8,618
Boston & Maine	3 mos.	1,497	16,141	1,429	19,005	17,498	2,741	2,790	386	3,191	3,241	618	415	9,121	16,588	16,568	87.3	94.7	2,417	1,204	–610	–3,244
	12 mos.	1,497	64,648	5,618	76,632	70,717	11,456	10,853	1,705	13,325	12,378	2,486	1,475	34,680	64,977	62,888	84.8	88.9	11,654	5,782	–1,679	–6,509
Burlington Northern	3 mos.	23,512	225,769	1,881	238,301	231,217	39,786	29,280	3,857	45,521	38,176	10,499	6,376	97,211	202,308	176,931	84.9	76.5	35,992	18,754	5,570	20,446
	12 mos.	23,589	887,665	11,458	940,162	870,453	146,081	127,430	15,417	168,452	154,274	44,686	24,347	381,424	778,536	734,426	82.8	84.4	161,627	80,318	48,714	38,380
CPR Lines in	3 mos.	234	1,695	43	1,802	1,504	379	494	64	364	289	47	65	728	1,680	1,629	93.2	108.3	122	105	–404	–445
Maine	12 mos.	234	6,408	206	6,820	6,724	1,546	1,398	256	1,456	1,343	187	251	2,971	6,814	6,235	99.9	92.7	6	369	–1,790	–907
Central of	3 mos.	2,045	18,054	–	18,524	17,309	4,499	3,643	412	3,274	3,151	926	391	6,246	15,258	13,858	82.4	80.1	3,266	230	2,268	1,551
Georgia	12 mos.	2,045	67,508	191	69,596	66,682	14,099	12,102	1,157	11,732	11,979	3,523	1,489	21,256	51,893	51,873	74.6	77.8	17,703	7,041	7,831	5,593
Central RR of	3 mos.	591	8,867	1,099	11,873	11,855	1,728	1,694	341	2,256	2,234	307	196	5,654	10,792	12,406	90.9	104.6	1,081	1,167	–1,563	–3,754
New Jersey	12 mos.	591	37,979	4,418	51,526	49,877	6,537	7,022	1,669	8,514	8,738	1,264	838	23,391	42,904	47,912	83.3	96.1	8,622	4,518	–1,221	–10,502
Central Vermont	3 mos.	382	2,288	3	2,362	2,139	561	545	90	226	131	–10	24	1,079	1,936	1,703	81.9	79.6	425	206	237	–126
	12 mos.	382	8,878	6	9,287	8,882	1,972	2,098	231	840	716	31	84	3,875	7,092	6,932	76.3	78.0	2,195	737	1,637	369
Chesapeake &	3 mos.	5,048	87,780	43	91,133	117,249	13,778	14,420	2,041	18,451	21,378	6,207	2,818	37,702	80,612	90,140	88.5	76.9	10,521	cr 1,026	6,187	16,464
Ohio	12 mos.	5,062	435,643	382	455,202	453,031	60,978	53,770	7,043	93,960	85,657	24,723	11,895	172,303	367,166	357,041	80.7	78.8	88,036	29,285	37,795	43,719
Chicago & Eastern	3 mos.	643	8,916	–	9,047	7,724	1,829	1,559	88	1,381	1,320	360	299	2,695	6,611	5,528	73.1	71.6	2,436	675	790	1,026
Illinois	12 mos.	643	34,753	–	35,275	30,444	7,102	6,345	256	6,273	5,380	1,447	1,221	11,494	27,720	24,601	78.6	80.8	7,555	2,037	2,229	822
Chicago & North	3 mos.	10,719	72,861	5,481	83,454	79,703	10,642	8,164	1,135	13,927	13,580	4,078	2,187	35,629	67,633	62,320	81.0	78.2	15,821	5,345	4,049	5,404
Western	12 mos.	10,929	300,276	22,068	338,393	313,928	47,465	42,744	7,717	54,511	51,235	16,831	8,571	141,850	272,401	255,205	80.5	81.3	65,992	24,784	13,552	8,504
Chic., Milw., St.	3 mos.	10,513	70,820	1,427	75,699	69,096	12,474	10,328	1,680	13,228	10,609	3,069	2,043	29,270	61,216	57,333	80.9	83.0	14,483	5,476	2,501	920
Paul & Pacific	12 mos.	10,532	273,901	6,217	295,751	277,540	49,179	45,355	6,393	49,760	45,253	12,478	8,076	118,598	243,113	237,411	82.2	85.5	52,638	24,631	2,560	–7,867
Chicago, Rock	3 mos.	7,513	68,078	1,216	72,043	69,867	8,127	8,309	–251	13,184	10,207	1,675	1,917	28,512	55,398	53,023	76.9	75.9	16,644	4,457	1,917	–1,556
Island & Pacific	12 mos.	7,507	274,919	4,772	291,808	273,465	39,024	37,390	3,343	53,043	43,879	6,836	7,662	117,841	232,291	221,904	79.6	81.1	59,517	19,739	–4,315	14,359
Clinchfield	3 mos.	296	8,421	33	8,561	10,199	879	693	401	1,929	1,600	636	257	2,433	5,818	5,625	68.0	55.2	2,743	815	1,463	2,540
	12 mos.	306	37,460	47	37,877	36,747	4,223	2,954	649	6,872	5,752	2,457	1,068	10,614	24,062	20,970	63.5	57.1	13,815	3,305	8,885	11,334
Colorado &	3 mos.	692	6,297	–	6,503	5,046	672	598	58	1,153	700	356	14	2,406	4,607	3,347	70.8	66.3	1,896	cr 19	1,208	216
Southern	12 mos.	692	23,441	–	24,107	19,634	2,440	2,473	220	3,821	3,012	1,263	73	8,284	15,956	13,518	66.2	68.9	8,152	2,466	3,881	1,931
Ft. Worth &	3 mos.	1,201	5,374	–	5,567	4,957	962	847	100	754	612	115	52	2,851	4,987	4,324	89.6	87.2	581	166	–839	155
Denver	12 mos.	1,201	22,709	–	23,398	19,479	3,290	2,924	329	2,761	2,198	446	267	10,579	18,305	16,325	78.2	83.8	5,092	1,363	–236	–94
Delaware &	3 mos.	718	10,386	–1	10,549	11,479	1,364	1,468	118	2,515	1,832	401	342	4,215	9,106	8,869	86.3	77.3	1,443	1,393	–270	369
Hudson	12 mos.	726	43,538	142	44,739	46,062	5,984	6,335	476	9,453	8,601	1,618	1,464	17,272	37,130	37,754	83.0	82.0	7,609	5,813	252	1,031
Denver & Rio Grande	3 mos.	1,890	25,561	56	26,156	25,230	2,854	2,415	617	4,474	3,570	1,347	919	8,457	18,351	16,528	70.2	65.5	7,805	3,604	3,817	3,211
Western	12 mos.	1,897	106,732	932	109,541	97,798	12,106	9,997	1,799	17,184	14,947	5,268	3,631	33,412	72,845	65,942	66.5	67.4	36,696	18,274	16,684	13,470
Detroit & Toledo	3 mos.	50	1,750	–	1,885	1,442	227	99	17	337	263	118	71	680	1,454	1,026	77.1	71.2	431	158	124	118
Shore Line	12 mos.	50	7,219	–	7,762	6,455	840	618	74	1,299	1,143	476	276	2,556	5,467	4,730	70.4	73.3	2,296	1,056	847	526
Detroit, Toledo &	3 mos.	478	9,232	–	9,482	8,681	853	737	105	1,846	1,605	453	265	3,452	7,054	6,345	74.4	73.1	2,428	688	804	1,112
Ironton	12 mos.	478	35,535	–	37,151	32,127	3,520	3,189	405	7,422	6,409	2,080	981	13,333	27,622	24,878	74.3	77.4	9,530	2,853	3,295	3,039

(Continued on page 42)

Fourth Quarter and Twelve Months' Figures of Calendar Year 1971

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total 1971	Total (inc. misc.) 1970	Operating Expenses: Maint. Way and Structures: Total 1971	Total 1970	Deprec. and Retirements	Maint. Equipment: Total 1971	Total 1970	Deprec. and Retirements	Traffic	Transportation	Total 1971	Total 1970	Operating ratio 1971	Operating ratio 1970	Net from railway operation	Railway tax accruals	Net Railway operating income 1971	Net Railway operating income 1970
Duluth, Missabe &	3 mos.	506	5,962	–	6,309	8,399	1,236	1,513	230	1,632	1,651	554	75	2,426	6,204	7,579	98.3	90.2	105	1,185	–751	–226
Iron Range	12 mos.	506	40,284	–	43,833	45,282	5,901	5,746	891	6,587	6,313	2,206	271	11,520	28,533	27,659	65.1	61.1	15,300	10,874	5,593	5,787
Duluth, Winnipeg	3 mos.	170	2,770	–	2,776	2,212	361	355	16	261	195	2	63	1,033	1,788	1,592	64.4	72.0	988	454	350	36
& Pacific	12 mos.	170	10,758	–	10,866	9,781	1,437	1,278	65	947	792	10	254	3,826	6,715	5,977	61.8	61.1	4,151	1,621	1,854	885
Elgin, Joliet &	3 mos.	205	8,228	–	12,864	15,491	1,450	1,403	115	1,915	1,518	333	227	4,911	9,834	12,340	76.4	79.7	3,030	3,476	–600	1,404
Eastern	12 mos.	205	41,986	–	64,095	62,146	5,631	6,241	438	8,583	9,658	1,869	878	24,396	46,941	48,825	73.2	78.6	17,153	11,177	3,347	2,922
Erie Lackawanna	3 mos.	2,866	58,100	2,851	65,019	66,998	6,847	6,697	649	12,258	10,886	1,883	1,304	29,175	52,981	52,712	81.5	78.7	12,038	4,153	1,483	1,388
	12 mos.	2,866	239,647	11,109	268,548	262,150	27,816	29,652	2,940	46,166	42,822	7,419	5,495	120,645	212,269	212,169	79.0	80.9	56,279	20,102	8,991	–332
Florida East	3 mos.	530	10,026	–	10,317	7,996	3,858	2,733	1,362	902	799	277	218	2,031	7,520	6,291	72.9	78.7	2,798	701	1,018	347
Coast	12 mos.	548	34,194	–	34,986	30,100	11,530	10,086	1,950	3,739	3,977	1,102	854	7,642	25,670	24,503	73.4	81.4	9,315	2,924	2,481	612
Georgia Railroad	3 mos.	331	2,777	1	2,897	3,017	441	378	31	377	459	92	102	1,023	2,071	2,098	71.5	69.5	826	140	463	510
	12 mos.	331	12,094	6	12,575	10,967	1,734	1,492	105	1,579	1,641	283	483	4,226	8,620	8,004	68.6	73.0	3,954	594	2,164	1,527
Grand Trunk	3 mos.	946	20,090	74	21,231	14,833	2,771	3,282	235	3,320	3,161	137	416	10,385	18,465	17,460	87.0	117.7	2,766	1,975	–3,369	–8,665
Western	12 mos.	946	80,496	570	85,112	70,321	12,381	12,170	874	13,559	12,485	580	1,737	43,151	76,840	73,897	90.3	105.1	8,272	8,065	–16,274	–27,853
Green Bay &	3 mos.	255	1,950	–	2,035	2,045	328	261	22	260	289	53	139	665	1,563	1,553	76.8	75.9	472	129	194	24
Western	12 mos.	255	7,785	–	8,073	7,366	1,166	793	85	1,015	995	208	537	2,680	6,058	5,402	75.0	73.5	2,015	956	532	207
Gulf, Mobile &	3 mos.	2,734	24,908	21	25,511	26,307	3,316	3,203	316	5,564	5,196	1,432	935	8,477	19,306	19,697	75.7	74.8	6,205	2,202	2,218	2,050
Ohio	12 mos.	2,734	101,543	541	106,127	104,232	14,455	13,415	1,265	22,789	20,673	5,764	3,881	35,499	81,047	79,463	76.4	76.2	25,080	8,574	9,935	8,870
Illinois Central	3 mos.	6,760	78,786	2,757	85,340	86,928	13,522	13,036	1,588	14,372	14,801	3,921	2,523	34,537	70,040	67,751	82.1	77.9	15,300	6,245	5,072	5,734
	12 mos.	6,761	324,927	13,304	352,377	338,090	51,875	49,502	6,353	60,798	58,147	15,985	8,977	131,681	274,702	267,062	78.0	79.0	77,676	32,082	26,003	20,682
Illinois Terminal	3 mos.	392	2,587	–	2,960	2,922	418	365	78	606	411	76	95	1,215	2,624	2,263	88.6	77.5	336	136	171	267
	12 mos.	394	10,760	–	12,355	11,586	1,464	1,320	108	1,865	1,709	314	350	4,596	9,217	8,837	74.6	76.3	3,137	897	1,606	354
Kansas City	3 mos.	1,672	22,993	–	24,475	24,409	2,905	3,644	160	3,432	4,223	1,198	936	8,361	16,989	18,084	69.4	74.1	7,486	2,269	2,926	3,085
Southern	12 mos.	1,668	95,729	–	101,465	94,303	12,459	11,923	939	15,553	15,478	4,782	3,602	34,345	70,882	66,669	69.9	70.7	30,583	9,208	12,171	10,935
Lake Superior &	3 mos.	117	772	–	1,355	1,257	272	198	62	372	285	184	9	518	1,332	1,339	98.2	106.5	24	240	–80	39
Ishpeming	12 mos.	117	3,671	–	5,551	6,283	1,096	920	236	1,437	1,468	731	34	1,912	5,048	5,070	90.9	80.7	503	818	249	508
Lehigh Valley	3 mos.	926	9,966	–	10,314	11,674	1,471	1,787	336	1,674	2,089	353	407	4,959	9,484	11,228	92.0	96.2	830	868	–1,719	–2,851
	12 mos.	927	44,177	–	45,459	48,252	6,031	6,355	1,316	8,360	7,519	1,394	1,532	21,217	40,702	42,944	89.5	89.0	4,757	3,873	–5,785	–6,355
Long Island	3 mos.	322	2,549	20,631	24,189	23,564	4,511	5,091	309	7,605	8,871	1,335	146	18,374	35,416	32,472	46.4	137.8	–11,227	1,713	–14,540	–12,025
	12 mos.	322	9,873	82,528	96,092	95,395	18,361	16,518	1,152	29,841	30,299	4,440	690	70,775	133,289	116,748	138.7	122.4	–37,197	6,998	–50,075	–31,792
Louisville &	3 mos.	6,590	107,033	2	109,886	105,762	15,734	16,135	–446	24,084	21,016	7,921	2,356	39,274	87,106	79,889	79.3	75.5	22,780	7,183	10,503	15,218
Nashville	12 mos.	6,592	432,264	285	443,269	404,960	70,493	59,060	7,727	89,325	81,001	30,752	10,153	159,461	352,785	319,450	79.6	78.9	90,484	29,079	43,523	44,120
Maine Central	3 mos.	908	6,727	–	6,830	6,301	1,628	1,292	152	1,550	1,281	283	110	2,440	6,140	5,530	89.9	87.8	690	485	441	820
	12 mos.	909	27,531	1	28,589	25,864	5,828	5,117	436	6,017	5,167	1,110	475	9,903	23,877	22,369	83.5	86.5	4,713	2,025	2,506	1,093
Missouri Illinois	3 mos.	333	1,624	–	1,644	1,782	293	294	9	724	688	341	53	379	1,529	1,535	93.0	86.1	115	502	589	1,076
	12 mos.	333	7,193	–	7,277	7,171	1,236	1,213	34	2,749	2,924	1,380	197	1,515	6,042	6,437	83.0	89.8	1,236	2,069	2,938	3,391
M-K-T Lines	3 mos.	2,609	18,338	–	19,091	17,657	2,236	1,942	349	2,726	2,054	338	902	6,853	13,571	12,605	71.1	71.4	5,521	1,356	915	1,941
	12 mos.	2,609	71,509	–	74,208	69,406	10,932	10,105	1,644	9,452	8,457	1,361	3,452	26,881	54,115	52,594	72.9	75.8	20,092	5,424	1,208	–672
Missouri Pacific	3 mos.	8,906	105,024	1	109,831	91,371	17,707	13,111	1,969	16,595	14,736	4,071	2,495	39,410	80,843	67,182	73.6	73.5	28,991	6,031	10,921	7,745
	12 mos.	8,904	403,528	146	421,855	369,428	63,021	53,805	6,465	70,582	60,153	16,011	9,480	149,676	311,377	273,357	73.8	74.0	110,479	26,928	38,634	31,381
Monongahela	3 mos.	193	1,055	–	1,064	1,138	246	297	55	138	139	20	1	230	659	866	61.9	76.1	406	78	143	–9
	12 mos.	193	6,174	–	6,263	5,256	1,315	1,245	199	612	690	78	10	1,413	3,516	3,849	56.1	73.2	2,748	279	1,594	62
Norfolk &	3 mos.	7,619	152,086	40	158,092	192,068	18,835	22,192	3,075	32,628	33,128	12,998	4,050	60,328	125,419	136,715	79.3	71.2	32,673	5,332	21,796	35,518
Western	12 mos.	7,601	700,814	507	727,620	734,218	83,296	80,698	10,999	135,060	127,450	52,043	16,267	253,845	527,588	528,002	72.5	72.0	200,032	59,737	113,039	116,222
Norfolk	3 mos.	622	3,599	–	3,672	3,399	706	622	85	594	582	180	155	1,194	2,945	2,633	80.2	77.5	727	198	323	339
Southern	12 mos.	622	14,088	–	14,392	13,172	2,681	2,436	327	2,309	2,109	720	633	4,594	11,412	10,490	79.3	79.6	2,980	1,005	1,151	763
Northwestern	3 mos.	315	3,047	–	3,068	2,315	1,488	880	687	93	185	–1	23	1,059	2,752	2,170	89.7	93.7	316	201	–267	–636
Pacific	12 mos.	321	12,080	12	12,170	9,648	3,896	3,115	883	328	741	8	89	3,893	8,631	7,993	70.9	82.9	3,539	878	938	–1,242

(Continued on page 44)

Market Outlook

CARLOADINGS

Loadings of revenue freight in the week ended April 22 totaled 504,694 cars, according to the Association of American Railroads. This was an increase of 4,640 cars, or 0.9%, compared with the previous week, and a decrease of 29,396 cars, or 5.5%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended April 22 are estimated at 15.0 billion, a decrease of 3.2% below the corresponding week of 1971.

REVENUE FREIGHT CARLOADINGS

Commodity	Apr. 22 week	Apr. 15 week
Grain	21,237	23,079
Farm products	10,167	9,380
Metallic ores	23,887	20,851
Coal	91,604	90,114
Crushed stone, gravel & sand	28,354	28,105
Nonmetallic minerals	9,353	9,704
Grain mill products	17,917	18,106
Food and kindred products	23,858	23,622
Primary forest products	25,261	24,840
Lumber & wood products (except furniture)	17,484	18,034
Pulp, paper & allied products	22,994	22,579
Chemicals & allied products	31,551	32,342
Petroleum products	8,969	9,480
Stone, clay & glass products	21,671	21,531
Coke	7,939	8,282
Metals & products	25,056	25,331
Motor vehicles & equipment	26,517	26,733
Waste & scrap materials	15,649	15,604
Forwarder & shipper assn. traffic	5,764	5,931
All other carloads	68,937	67,051
LCL traffic	525	540
Total cars loaded	504,694	501,239
Cumulative total, 16 weeks	1972 7,657,916	1971 7,994,827
Estimated revenue ton-miles (billions) 16 weeks	230.0	230.2

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended April 15 totaled 25,317 cars (15.1% above the corresponding week last year) and 41,246 trailers or containers (up 15.4% from 1971). Cumulative volume for the first 15 weeks of 1972 is 359,244 cars (up 4.2% from last year) and 600,474 trailers or containers (up 8.4% from 1971). In addition to freight, 2,437 cars carrying 3,874 trailers or containers of mail and express traffic were handled piggyback. Cumulative figures for the first 15 weeks of 1972 are 37,191 cars (down 28.3% from the 1971 total, and 58,645 trailers or containers (down 23.0% from 1971).

IN CANADA

7 days ending	Tons of Revenue Freight	Cumulative Totals
April 7, 1972	3,857,847	50,110,467
April 7, 1971	2,707,786	47,125,240

FREIGHT-TRAIN CARS

• *Burlington Northern.*—Ordered 63 100-ton bulkhead flat cars from General Steel Industries at a cost of about $1.5 million.

• *Rock Island.*—Ordered 900 freight cars, valued at $16 million. ACF will build 500 100-ton covered hopper cars and 300 70-ton box cars; Ortner will build 100 open-top hopper cars.

• *Trailer Train.*—Ordered 36 89-ft 4-in. standard-level cars from Bethlehem Steel.

• *Freight-car orders and deliveries.*—The following report has been released by the ARCI and the AAR:

DELIVERED

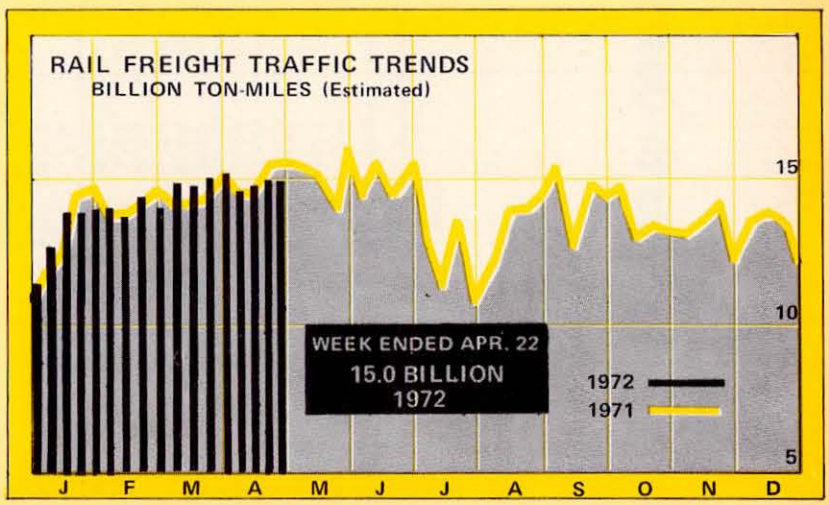
	Mar. 1972	Feb. 1972	Mar. 1971
Built new by carbuilders	4,351	3,327	4,262
Built new in R.R. shops	229	240	764
Built new—total	4,580	3,567	5,026
Rebuilt	239	386	308
TOTAL DELIVERED	**4,819**	**3,953**	**5,334**

ORDERED

To be built new by carbuilders	3,462	2,025	3,885
To be built new in R.R. shops	200	100	1,419
To be built new—total	3,662	2,125	5,304
To be rebuilt	0	500	260
TOTAL ORDERED	**3,662**	**2,625**	**5,564**

ON ORDER AND UNDELIVERED

	Apr. 1, 1972	Mar. 1, 1972	Apr. 1, 1971
To be built new by carbuilders	14,079	14,948	19,948
To be built new in R.R. shops	4,513	4,542	5,245
To be built new—total	18,592	19,490	25,193
To be rebuilt	1,708	1,947	2,145
TOTAL ON ORDER	**20,300**	**21,437**	**27,338**



Source: Association of American Railroads

Fourth Quarter and Twelve Months' Figures of Calendar Year 1971

(Dollar figures are stated in thousands: i.e. with last three digits omitted)

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total 1971	Total (inc. misc.) 1970	Operating Expenses: Maint. Way and Structures Total 1971	Total 1970	Deprec. and Retirements	Maint. Equipment Total 1971	Total 1970	Deprec. and Retirements	Traffic	Transportation	Total 1971	Total 1970	Operating ratio 1971	Operating ratio 1970	Net from railway operation	Railway tax accruals	Net Railway operating income 1971	Net Railway operating income 1970
Oregon Electric	3 mos.	186	1,774	–	1,881	1,405	108	190	20	–88	34	–	7	795	859	766	45.7	54.5	1,022	342	258	119
Ry.	12 mos.	186	6,519	–	6,865	5,301	804	790	87	120	150	–	24	2,336	3,419	3,139	49.8	59.2	3,447	1,074	775	92
Penn Central		NOT AVAILABLE																				
Penn-Reading	3 mos.	312	1,831	22	2,067	2,009	593	458	87	330	341	27	18	1,496	2,556	2,386	123.7	118.8	–490	176	–1,245	–745
Seashore Lines	12 mos.	313	7,882	122	8,909	8,931	2,169	2,013	374	1,220	1,430	129	72	5,968	9,904	9,971	111.2	111.6	–995	700	–3,711	–3,871
Pittsburgh & Lake	3 mos.	211	6,087	14	6,663	7,866	1,357	1,084	157	4,154	3,506	1,660	167	2,987	9,300	9,112	139.6	115.9	–2,638	cr 761	1,408	3,319
Erie	12 mos.	211	33,703	59	36,615	37,964	5,607	4,994	672	15,452	13,261	6,589	696	14,023	38,341	36,827	104.7	97.0	–1,726	6,507	12,501	12,769
Reading	3 mos.	1,172	19,450	2,424	24,139	29,313	3,870	3,915	1,063	4,756	4,677	1,243	724	12,323	23,644	23,790	97.9	81.2	495	2,267	–4,091	1,725
	12 mos.	1,200	93,283	8,980	112,904	114,233	16,904	16,456	3,000	20,182	19,904	4,870	2,770	50,773	98,379	98,204	87.1	86.0	14,524	10,516	–5,776	–2,309
Richmond, Fred.	3 mos.	118	5,394	–40	5,686	6,387	837	903	118	837	920	267	97	1,109	3,219	4,352	56.6	68.1	2,467	1,490	992	1,302
& Potomac	12 mos.	118	22,383	1,052	25,219	26,307	3,020	3,262	458	3,417	3,893	1,105	373	6,228	14,691	18,236	58.3	69.3	10,528	5,794	4,824	4,311
St. Louis-San	3 mos.	4,759	51,692	–	53,951	47,566	7,047	5,945	344	8,056	6,154	2,560	1,789	20,554	40,466	35,185	75.0	74.0	13,486	4,209	5,693	4,814
Francisco	12 mos.	4,760	204,112	–	212,820	185,378	29,030	23,645	2,657	33,164	25,529	9,958	6,889	78,499	158,766	140,519	74.6	75.8	54,054	16,959	22,433	18,396
St. Louis	3 mos.	1,519	37,117	1	37,562	30,392	4,355	3,682	303	8,902	6,619	2,938	928	13,315	28,438	23,411	75.7	77.0	9,124	1,115	9,105	7,382
Southwestern	12 mos.	1,519	142,115	2	143,891	122,925	15,686	13,270	1,122	28,178	23,461	11,470	3,334	46,760	97,440	86,355	67.7	70.3	46,451	18,711	33,667	29,251
Seaboard Coast	3 mos.	9,114	125,920	5	130,129	128,700	19,945	16,130	1,740	23,680	22,232	6,165	2,979	46,791	99,042	94,802	76.1	73.7	31,086	10,085	8,927	13,895
Line	12 mos.	9,173	506,361	6,409	530,254	506,405	76,769	65,839	6,148	95,345	91,816	24,588	12,641	185,242	394,291	383,765	74.4	75.8	135,963	43,925	47,264	37,701
Soo Line	3 mos.	4,703	31,699	–	32,389	28,818	6,456	4,032	907	4,643	3,898	984	873	11,599	25,070	19,886	77.4	69.0	7,319	1,666	2,994	2,783
	12 mos.	4,701	121,960	–	124,478	113,089	21,967	17,800	1,904	17,245	15,256	3,838	3,451	44,002	92,256	83,417	74.1	73.8	32,222	11,730	10,759	8,834
Southern Railway	3 mos.	6,023	107,115	584	110,867	103,983	24,192	16,635	1,313	21,121	21,056	6,852	2,412	30,868	84,480	77,145	76.2	74.2	26,387	5,119	18,876	15,437
	12 mos.	6,023	406,626	2,867	423,392	400,058	71,167	58,761	4,592	77,861	74,784	26,771	9,051	127,348	306,321	291,413	72.3	72.8	117,071	40,746	63,395	59,137
Alabama Great	3 mos.	528	11,317	70	11,792	10,701	2,343	1,760	261	2,287	2,090	822	245	3,377	8,858	7,700	75.1	72.0	2,934	538	1,722	834
Southern	12 mos.	528	43,740	319	45,606	42,119	8,239	6,680	930	8,514	8,169	3,161	1,004	12,326	32,369	30,965	71.0	73.5	13,238	4,184	6,265	4,488
Cinn., New Orleans	3 mos.	390	17,000	–	17,556	14,065	2,095	1,958	249	4,027	3,508	1,574	364	5,059	12,271	10,355	69.9	73.6	5,285	474	4,794	1,652
& Tex. Pac.	12 mos.	390	63,970	2	66,569	57,713	8,244	7,072	920	14,431	12,996	5,936	1,482	17,486	44,448	39,323	66.8	68.1	22,121	6,875	14,664	11,151
Georgia Southern	3 mos.	454	5,651	–	5,815	4,479	877	823	55	589	486	150	114	1,448	3,250	2,832	55.9	63.2	2,564	260	1,251	585
& Florida	12 mos.	454	19,513	–	20,236	17,411	3,770	2,483	167	1,991	1,570	524	419	5,203	12,166	10,011	60.1	57.5	8,071	1,090	3,014	2,518
Southern Pacific	3 mos.	11,549	262,015	1,042	269,214	230,977	41,221	31,126	4,572	52,384	45,351	15,260	4,311	97,393	211,093	183,269	78.4	79.3	58,121	20,928	20,887	10,521
	12 mos.	11,587	1,001,350	5,606	1,028,705	935,702	140,572	113,137	13,314	203,495	168,884	61,180	16,587	383,664	804,842	731,402	78.2	78.2	223,863	93,813	74,761	61,596
Texas Pacific	3 mos.	2,134	25,231	–	26,526	23,793	4,456	3,429	370	4,633	4,219	1,498	943	10,227	21,400	18,134	80.7	76.2	5,126	1,389	2,527	3,735
	12 mos.	2,134	98,419	–	103,492	91,860	15,661	12,873	1,478	18,682	16,495	5,862	3,603	39,743	81,973	71,784	79.2	78.1	21,519	6,421	10,478	10,100
Toledo, Peoria &	3 mos.	239	2,700	–	2,806	2,667	308	527	21	316	246	61	221	996	2,075	2,017	73.9	75.6	731	216	286	192
Western	12 mos.	239	10,445	–	10,895	10,314	1,670	1,670	73	1,100	1,100	244	844	3,785	8,255	7,922	75.8	76.8	2,640	995	744	491
Union Pacific	3 mos.	9,482	178,749	45	185,869	174,166	21,479	20,481	2,229	33,316	33,972	13,477	4,567	59,649	130,287	128,438	70.1	73.7	55,582	18,687	38,074	36,572
	12 mos.	9,478	662,918	2,268	691,571	669,617	85,506	75,510	8,381	134,120	129,691	53,515	17,552	234,270	516,610	502,753	74.7	75.1	174,962	71,037	108,234	114,416
Western Maryland	3 mos.	862	8,765	–	9,166	13,791	2,114	2,347	496	2,872	2,729	889	466	4,161	10,541	11,400	115.0	82.7	–1,375	541	–1,969	1,574
	12 mos.	865	47,526	–	50,452	54,424	8,228	8,059	1,096	12,366	11,954	3,620	1,958	18,907	45,162	45,472	89.5	83.6	5,289	3,274	1,351	7,438
Western Pacific	3 mos.	1,187	18,300	–	19,398	18,019	2,873	3,058	283	3,704	3,133	897	837	8,209	17,351	16,412	89.4	91.1	2,047	1,420	–486	–1,339
	12 mos.	1,187	74,583	–	78,194	68,512	11,329	11,076	1,149	14,318	13,963	3,711	3,247	30,327	65,586	64,475	83.9	94.1	12,608	5,706	2,315	–6,024

People in the News

AMTRAK.—**Richard M. Boyd,** president, **North American Car Corp.,** Chicago, named regional manager-midwest, National Railroad Passenger Corp. (AMTRAK), 80 E. Jackson Blvd., Chicago.

ASSOCIATION OF AMERICAN RAILROADS.—**Keith L. Hawthorne,** a design engineer for **General Electric,** named research engineer, Research and Test Department, AAR, Washington, D.C.

BURLINGTON NORTHERN.—In the marketing department's market development division, **T.M. Walsh** appointed director of sales and service, food and agricultural products; **H.P. Marohnich,** director of pricing, food and agricultural products; **C.G. Gill,** director of cost control, manufactured products; **A.R. Boyce,** director of cost control, energy, metallics and chemicals.

CHESAPEAKE & OHIO/BALTIMORE & OHIO.—**Norman G. Halpern,** assistant vice president, executive department, elected vice president-labor relations, personnel and organization planning. Mr. Halpern succeeds **Owen Clarke,** elected vice president-law, succeeding **Kenneth H. Ekin,** who retired April 30. Mr. Clarke will continue to have responsibility for federal and state governmental relations. Messrs. Halpern and Clarke will have offices in Cleveland and Baltimore.

CHICAGO & ILLINOIS MIDLAND.—**Carl D. Forth,** vice president and general manager-assistant treasurer, elected president, effective May 1, to succeed **James E. Dare,** who retired Apr. 30 after 40 years of service. **William G. Harvey,** general superintendent, succeeds Mr. Forth.

CHICAGO SOUTH SHORE & SOUTH BEND.—**Elden E. Lidke,** assistant superintendent of transportation, appointed superintendent of transportation, Michigan City, Ind., succeeding **W.W. Weber,** retired.

DELAWARE & HUDSON.—**R.F. Miller,** auditor of revenue, Albany, N.Y., retired April 1, after more than 47 years of service. **G.E. Murphy** appointed manager of revenue accounts.

DETROIT, TOLEDO & IRONTON.—**W.O. Peecher, Jr.** appointed director-customer services, reporting to the vice president-traffic, Dearborn, Mich.

DULUTH, MISSABE & IRON RANGE.—**Daniel H. Core, Jr.,** appointed general counsel, Duluth, Minn., succeeding **Franklin B. Stevens,** who retired March 30, after more than 30 years of service. Mr. Core joined the DM&IR on February 1 as assistant general counsel. He was formerly general attorney-traffic, **United States Steel Corp.**

John M. Whalen, assistant director purchases and stores, Proctor, Minn., retired March 31, after more than 42 years of service.

Norman G. Halpern
C&O/B&O

Owen Clarke
C&O/B&O

GRAND TRUNK WESTERN.—**William Glavin,** chief regional engineer, Metropolitan Region, **Penn Central,** New York, named chief engineer, GTW, Detroit.

Earl G. Fontaine, analytical services officer, named executive assistant to **Dr. Robert A. Bandeen,** president.

E. Robert Adams, general manager, Metropolitan Region, **Penn Central,** New York, appointed general superintendent of transportation, GTW, Detroit.

WESTERN PACIFIC.—**Joseph M. Ostrow** named assistant vice president-market development. He was formerly assistant vice president-planning coordination, **Penn Central.**

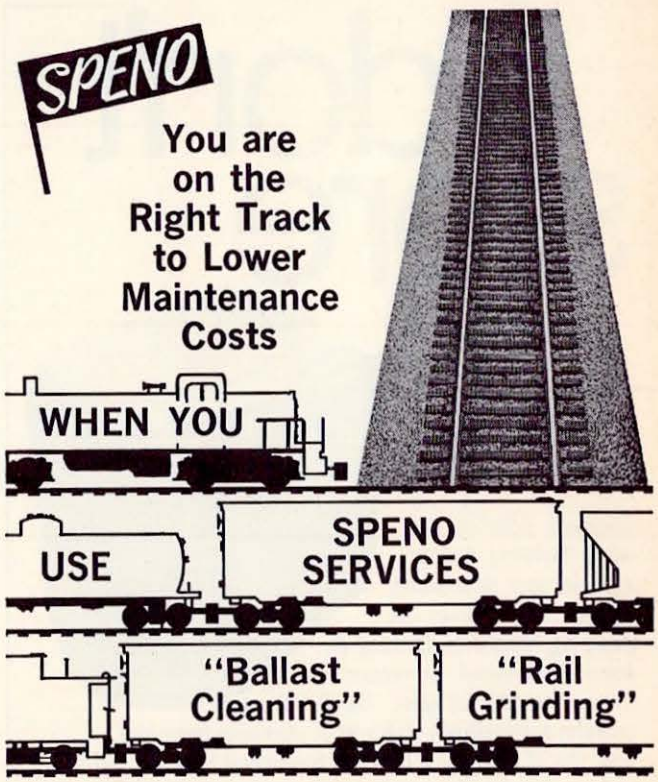
John L. Marches appointed director-sales administration and services. He was formerly research manager-marketing, **Jos. Schlitz Brewing Co.,** Milwaukee.

Bethlehem
railroad fasteners
...for track and roadways
...tunnels and slopes
...maintenance equipment
...buildings and structures
...rolling stock

All types and sizes. Specials, too. Top quality, reliable service, and fast delivery.

Bethlehem Steel Corporation,
Bethlehem, PA 18016

BETHLEHEM STEEL



"Just Ask the Railroads That Use Our Services"

Frank Speno Railroad Ballast Cleaning Company, Inc.
306 North Cayuga St., Ithaca, New York 14850
Clark St. East Syracuse, New York Box 219 13057

Speno International, S. A.
22 Parc Chateau Banquet, Geneva, Switzerland.
(For Operations Outside the North American Continent)

MEMBER RPI

IEC-Holden Ltd.
8180 Côte de Liesse Road
Montreal, 376 P. Q. Canada

Circle 12 on coupon page 39

SUPPLY TRADE

Transco Inc. has formed a **Special Equipment Railway Division** and appointed **David Kenealy** and **Barry Spitzer** as sales representatives and engineers.

Harry W. Mulcahy has been named manager-product development, **American Steel Foundries**, with headquarters in Chicago. His successor as manager of product engineering at ASF's Hammond, Ind., plant is **Robert B. Love**, formerly product design manager for railroad freight car trucks.

The Okonite Co. has appointed the following sales representatives: **Duncan J. Wilson**, Charlotte, N.C., district; **Frederick D. Green**, and **James F. Jennings**, New York district; and **Donal C. Noonan, Jr.**, Los Angeles District.

Leslie H. Scott, Jr., assistant vice president-systems and information services, **Seaboard Coast Line**, has been elected vice president-regional manager and member of the board of directors, **Cybernetics & Systems, Inc.**, subsidiary of Seaboard Coast Line Industries, at Jacksonville, Fla.

Henry Valle has been elected vice chairman, **MLW-Worthington Limited**, Montreal, and **Robert L. Grassby** has been elected president and chief operating officer. **Edward C. Forbes**, corporate vice president, **Studebaker-Worthington, Inc.**, New York, re-assumes the office of chairman of MLW-Worthington, which position he relinquished in 1970. Mr. Forbes succeeds **Richard M. Ettington**, resigned to assume the presidency of **Worthington Pump International, Inc.**

John E. Caruthers has been named sales manager, **Standard Brake Shoe & Foundry Co.** He was formerly associated with **Colt Industries.**

Walter W. Borland, vice president in charge of operations, **Whitehead & Kales Co.**, has been named senior vice president to head the **Commercial and Transportation Products Division.**

Chemetron Corp. has moved its corporate offices from 840 N. Michigan Avenue, Chicago, to 111 E. Wacker Drive, Chicago. Headquarters for five divisions—National Cylinder Gas, Cardox, Medical Products, Railway Products and the International division, Gases and Related Products Group—are also involved in the move.

Carl E. Oppenheim has been named general sales manager of the new arc welding and gas cutting equipment department of Chemetron's Railway Products division. Mr. Oppenheim previously served as general sales manager of the distributor organization of the National Cylinder Gas division.

TRANSIT

James A. Brown, project officer—transportation, **Canadian National**, has been appointed rail operations engineer, **Government of Ontario Transit Branch**, Downsview, Ont.

Dewey E. Chester, manager of community relations, **Port Authority of Allegheny County**, Pittsburgh, has been named urban programs coordinator, Marketing and Communications division. **Robert Fulton**, rate and service planning analyst, has been appointed assistant superintendent of rates and service planning. **Donald Frazier** has been named assistant division superintendent, Transportation Department.

Richard E. Pinkham has been appointed assistant general manager for rail operations, **Southeastern Pennsylvania Transportation Authority**, Philadelphia, succeeding **Edward A. Harvey**, who joined A.T.E. Management Service Co., Inc., Kansas City on March 31. Mr. Pinkham was formerly general manager, Port Authority Transit Corp.

Robert W. Nelson has been appointed assistant general manager for finance and administration, **Metropolitan Atlanta Rapid Transit Authority**, Atlanta, Ga. Mr. Nelson was formerly controller, San Francisco Bay Area Rapid Transit District.

OBITUARY

Frederic H. Baird, 79, retired assistant vice president of sales and service, **New York Central** (now Penn Central), died April 15 in Connecticut.

Henry C. Darmstadter, Jr., 43, a Washington attorney and former hearing examiner with the **Interstate Commerce Commission**, died April 5 of a heart attack. While at the ICC he participated in the Pennsylvania and New York Central merger case.

don't store it.

Eliminate pollution and waste handling directly right in your locomotives, cars or out buildings. No dumping, emptying, flushing or freezing! Designed for railroad use. Proven for over 10 years. The Rail-Head operates automatically with a jet of sterilizing flame and cool, forced air venting. Easy and economical to install, maintain and use. Operates for pennies a day on gas or fuel oil, and available electricity. Fully approved and guaranteed. Write:

RAIL-HEAD Dry, Sanitary Toilet

LaMERE INDUSTRIES, INC. Dept. 525 Walworth, Wis. 53184

Circle 13 on coupon page 39

Train Billing Repair Card Write-Up Men

How many Repair Cards are rejected each month? To reduce that number, sign up for our new home study course for Write-Up Men.

This course consists of fifteen lessons as follows:

1. Purpose of the Rules of Interchange and Care of Foreign Cars.
2. Air Brake Equipment.
3. General Regulation for Lubrication.
4. Components of Journal Box.
5. Roller Bearings, Adapters and Cartridge Bearings.
6. Wheels and Axles—Components of Trucks.
7. Running Boards—Dome Platforms—Brake Steps—Cross Over Platforms—Repair to Sills.
8. General Repairs and Instructions.
9. Material and Interchange of Freight Cars.
10. Responsibility.
11. General Regulations for Pricing and Billing General Rules.
12. Review of Entire Book.
13. The A.A.R. Billing Repair Card Basics.
14. Practice Problems—Part 1.
15. Practice Problems—Part 2.

The cost is $3.00 per lesson ($45.00 total) and includes a 1972 Field Manual, grading of all examinations and monthly progress report to your Railroad.

Upon satisfactory completion of the course, a diploma will be issued.

Start your course right away by returning the coupon below.

RAILWAY EDUCATIONAL BUREAU

1809 Capitol Avenue, Omaha, Nebraska 68102

Please enroll me in the A.A.R. Billing Repair Card Course. Here is my check for $3.00. I will pay $6.00 per month for seven additional months ($45.00 total). I understand I may cancel at any time.

NAME_____

ADDRESS_____

CITY_____ STATE_____ ZIP_____

RAILROAD_____

TITLE_____

Advertisers Index

ACI Systems Corp. 10
American Steel Foundries 14-15
Bethlehem Steel Corp. 45
Hoesch America, Inc. 3
Kerite Company,The . . . . . IBC
La Mere Industries, Inc. 46
Precision National Corp. . . . . BC
Rails Company, The 38
Railway Educational Bureau 46
Research Products Mfg. Co., Inc. . . . . IFC
Roosevelt & Son, Inc. 38
Safety Electrical Equipment Corp. 6
Safetran Systems Corporation 23-28
Speno, Frank 45
Vapor Corp., Div. of The Singer Co. 18, 20
WABCO-Transportation Group 4

Railmark

Consultants in Corporate Identification Systems, Marketing, Communications Planning, Advertising & Promotion Design. For information, write Railmark Limited, Station Plaza East, Great Neck, N.Y. 11021, U.S.A. Telephone: 212-895-7498 or cable RAILMARK GREATNECKNY.

For Sale—
Lease Purchase — Lease

HOPPER CARS

Large selection 55-ton two pocket open top all steel 2048 Cu. Ft. hoppers. These cars have been exceptionally well maintained and are in good structural - mechanical condition.

GONDOLA CARS

Large availability 70-ton 52'6" gondolas. Sample AAR interchange units now available for inspection

GREENBRIER LEASING CORP.
P.O.Box 1046 Dallas, Texas 75221
214 631-4120

POSITION OPEN

ENGINEER OF TRACK AND STRUCTURES

Graduate licensed engineer, preferably Civil, handling maintenance and construction work; Centrol Illinois, 100 mile main line railroad, headquarters Springfield. Opportunity for rapid advancement to position of Chief Engineer. Send confidential resume and salary desired to:

Chicago & Illinois Midland Railway Co.
Post Office Box 139
Springfield, Illinois 62705
Attn: Chief Engineer

Equal Opportunity Employer

GIVE ... so more will live
HEART FUND

TRANSPORTATION STUDIES AND REPORTS

- *Rapid Transit*
- *Railroad*
- *Transit Bus*
- *Operations*
- *Maintenance*
- *Mergers*
- *Acquisitions*
- *Valuations*

COVERDALE & COLPITTS, INC.
Transportation and Industrial Consultants
140 Broadway, New York (212) 943-7400

DCO The De Leuw, Cather Organization CONSULTING ENGINEERS
165 W. WACKER DRIVE • CHICAGO 60601

SUBWAYS • RAILROADS • SIGNAL SYSTEMS • PUBLIC TRANSIT • TRAFFIC • PARKING
HIGHWAYS • BRIDGES • PORT DEVELOPMENT • COMMUNITY PLANNING • URBAN RENEWAL
AIRPORTS • MUNICIPAL WORKS • INDUSTRIAL • ENVIRONMENTAL SCIENCE AND ENGINEERING

BOSTON • BUFFALO • NEWARK • NEW YORK • OKLAHOMA CITY • PHILADELPHIA
PORTLAND, OR • SAN FRANCISCO • SEATTLE • WASHINGTON, D.C.

FOR SALE: Mechanical Refrigerator Cars—40' and 50'—with floor racks and meat rails—cars are of steel construction—100 forty-footers, 42 fifty-footers—will sell one or all—F.O.T. East Chicago, Indiana—available for inspection—Call or write A.W. Gamauf, General American Transportation Corp., 120 South Riverside Plaza, Chicago, Il 60606, 312/621-6243.

FOR SALE

Mechanical Refrigerator Cars—40' and 50'—with floor racks and meat rails—cars are of steel construction—100 forty-footers, 42 fifty-footers—will sell one or all—F.O.T. East Chicago, Indiana—available for inspection—Call or write A.W. Gamauf, General American Transportation Corp., 120 South Riverside Plaza, Chicago, Il 60606, 312/621-6243.

For Sale or Lease
1960 Model Jackson Track Maintainer
1962 Model Kalamazoo Jack Tamper
Consolidated Railway Equipment Corporation
105 W. Madison St. (Suite 1202)
Chicago, Illinois 60602
Phone: (312) 346-4550

SIGNAL SUPERVISOR

17 years experience in electrical, drafting, supervision and engineering in Railway Signaling and Communication. College background in engineering. Offering 20 years service for fair salary. For information, write to Box 128.

RAILWAY AGE,
350 Broadway,
New York, N.Y. 10013.

TRANSPORTATION CONSULTANTS

- Railroads
- Operations
- Mergers
- Reorganization
- Transit
- Planning
- Highways
- Maintenance
- Valuations
- Industrial
- Rates
- Ports
- Acquisitions
- Divisions
- Financial

WYER, DICK & CO.
(A Subsidiary of Edwards & Kelcey, Inc.)
New York, Boston, Minneapolis, Philadelphia, Gainesville, Sao Paulo, Madrid, London.
Central Office: 8 Park Place, Newark, N. J. (201) 621-7050

Advertising Sales Department

Chicago, Ill. 60602
29 E. Madison St.
(312) 641-5815
C. James Fisher—vice president—sales
John M. Brennan
regional sales manager

New York, N.Y. 10013
350 Broadway,
(212) 966-7700
W. Arthur Cubbage
regional sales manager

Pittsburgh, Pa. 15234
300 Mt. Lebanon Blvd.
(412) 341-0844
Ronald M. Giallonardo
regional sales manager

Dallas, Tex. 75206
Noel Page Building
6400 N. Central Expressway
(214) 361-6972
Joseph Sanders

Los Angeles, Cal. 90025
11704 Wilshire Blvd.
(213) 477-4004
Fred Klaner, Jr.
Philip O. Bowers

Sausalito, Cal. 94965
3030 Bridgeway Building
(415) 332-1481
(415) 332-1482
Lewis Vogler & Co.

London S. W. 1, England
01-839 6318
67/68 Jermyn St., St. James's
Max F. Holsinger
Kenneth J. Hendry
Stuart K. Elliott

Manchester 22, England
Haletop
Wythenshawe Civic Center
Ian Goulden

Paris, 8e, France
70 Rue de Ponthieu
Stephen Brown-Joussard
Jean-Claude Lamoine

4 Dusseldorf-Nord
Eitelstrasse 32
Max F. Holsinger,
E. Hillerbrand, Herbert Haibt,
Reinhard Schomburg

Tokyo, Japan
Sun Gain Shia, Ltd.
Shiba Nikkatsu Bldg.
13, Shiba Park
Minato-Ku
C.H. Yiu, Managing Director

Viewpoint

Beggars rattling tin cups? Look again

Railroads urgently need help in rebuilding and expanding their freight-car fleet; a number of businesslike proposals to accomplish this are now before Congress. Generally, these proposals contemplate loans or loan guarantees to individual carriers.

So far, the industry has been adamant in turning down counter-proposals which contemplate government control of car supply and distribution. The Fastcor bill, now dead, was one such proposal. It has been succeeded by the "Rolling Stock Authority" draft bill, which contains all of Fastcor's objectionable features and more (RA, April 24, p. 26).

The sponsors of these proposals—labor organizations and some key shippers—appear to be shocked that the railroads will turn down *any* kind of help. They picture the carriers as beggars rattling their tin cups on the steps of the Capitol—and as everybody knows, beggars can't be choosers.

Let it be known that the railroads, while they may seem to be begging, are still pretty choosy about who controls their cars.

This came through clearly in recent Congressional testimony of AAR President Stephen Ailes which established that (1) the "beggarly" railroads have made, and are continuing to make, massive, multi-billion-dollar investments in car acquisition, and (2) while they need help in beefing up these investments, they feel that Amtrakization of the freight-car fleet may be too dear a price to pay.

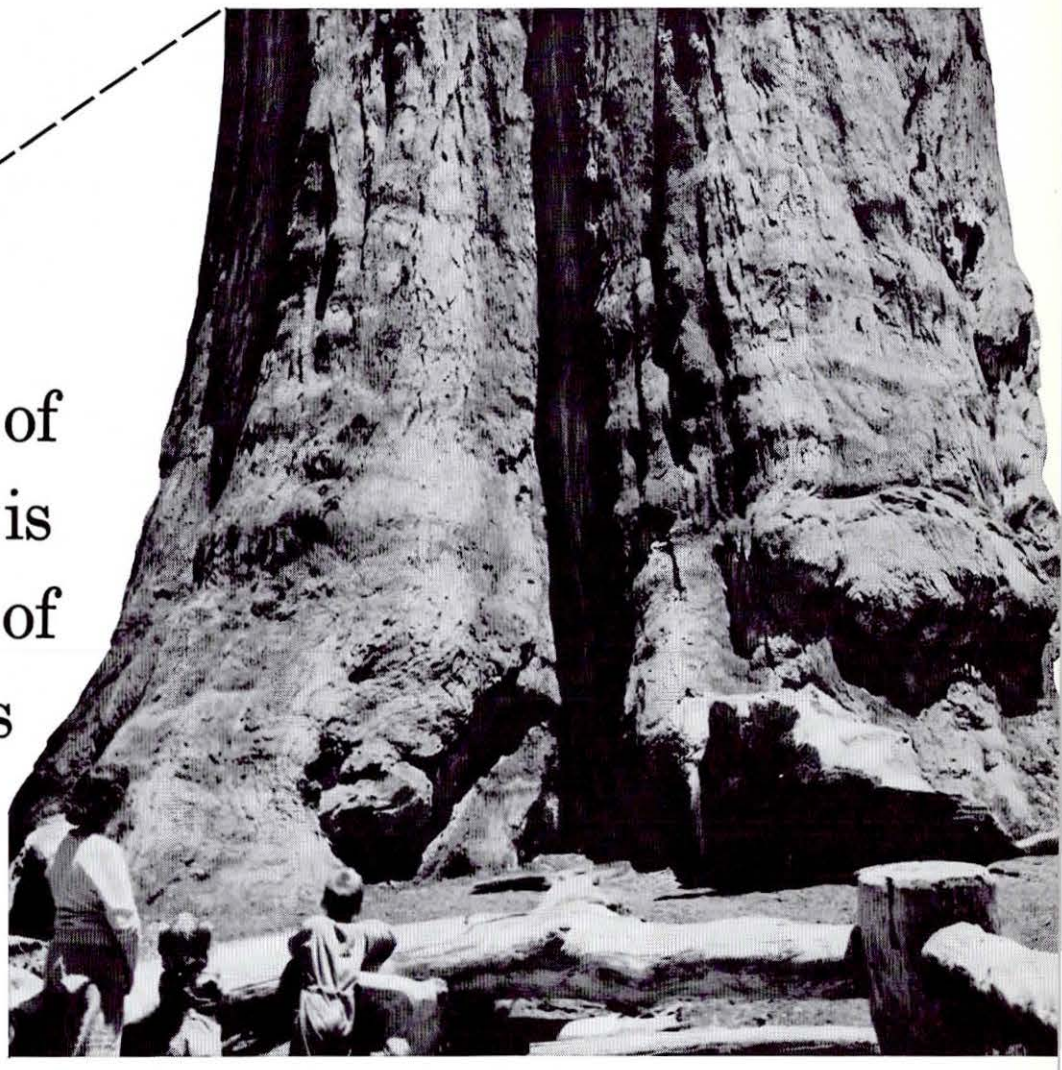
Ailes made these points, among others: (1) Total net investment in freight cars rose from $2.8 billion in 1955 to $7.4 billion in 1970. (2) This fell far short of solving the car-supply problem, because at the same time the cost of new cars was more than doubling, from $8,136 per car in 1956 to $17,161 in 1970. (3) In every year since 1962, railroad capital expenditures exceeded the sum of retained income and cash flow from depreciation and retirement charges, the cumulative deficiency through 1971 amounting to nearly $5 billion. (4) Equipment debt outstanding increased from $2.5 billion in 1962 to $4.4 billion in 1970. During the same period the nominal rate on new borrowing virtually doubled, from 4.45% in 1962 to 8.76% in 1970. (5) Increased debt at higher interest rates raised annual interest charges by $200 million between 1962 and 1971; there was a concurrent increase of $460 million in annual equipment rents as cash-short railroads resorted more and more to equipment leasing. (6) Thus the total of interest charges and equipment rents nearly doubled from $706 million in 1962 to $1,369 million in 1971.

"A RESPONSIBLE COMMITMENT. . ."

As Ailes told the subcommittee, "These data establish a significant, confident and responsible commitment by the railroad industry to an effort to stay ahead of the freight car problem."

What is now needed is a "responsible commitment" on the part of Congress. It should be businesslike, anticipating a dollar returned, with interest, for every dollar advanced. A government-controlled fleet does not meet the test.

Ailes put it mildly when he said, "An Amtrak-type corporation in the area of such an essential function as freight car supply and distribution will multiply the problems and do little if anything toward their solution."



Each ring of growth is mute evidence of this monarch's success in meeting the test of time.

Kerite cable also withstands the obvious rigors of nature as well as unseen stresses of severe electrical service.

Specify Kerite and get the benefit of 116 years of proven performance.

The Kerite Company • Principal Offices: Boston; Chicago; New York; Philadelphia; San Francisco; and Seymour, Connecticut • Sales Representation throughout the United States. A subsidiary of Harvey Hubbell Incorporated.

MEMBER RPI

Kerite

the cable that lasts . . . and lasts . . . and lasts . . .

We Lease, Sell and Rebuild Locomotives

Whether you need a locomotive for long or short-term use, or want to purchase additional motive power for your system, Precision can help you.

Now available through Precision's Locomotive Leasing Service are remanufactured units for road, freight, switching and industrial use. Upgrading with the latest components and systems results in a like-new, modern-day locomotive. It's the economical way to bolster a tight motive power situation or to carry you through occasional peak periods.

Precision also offers a wide range of locomotives for sale. If you are in the market for one or several units, it will pay you to let us know your requirements.

The services of Precision National Corporation also include complete rebuilding and updating of your own diesel locomotives, to give you years of additional operation.

If it has to do with diesel locomotives... better see Precision.

PRECISION NATIONAL CORPORATION

For details on Precision Services write or call:
Precision National Corporation
General Offices: P.O. Box 789
Mount Vernon, Illinois 62864
Telephone: 618-244-0405

(6958)

Circle 2 on coupon page 39